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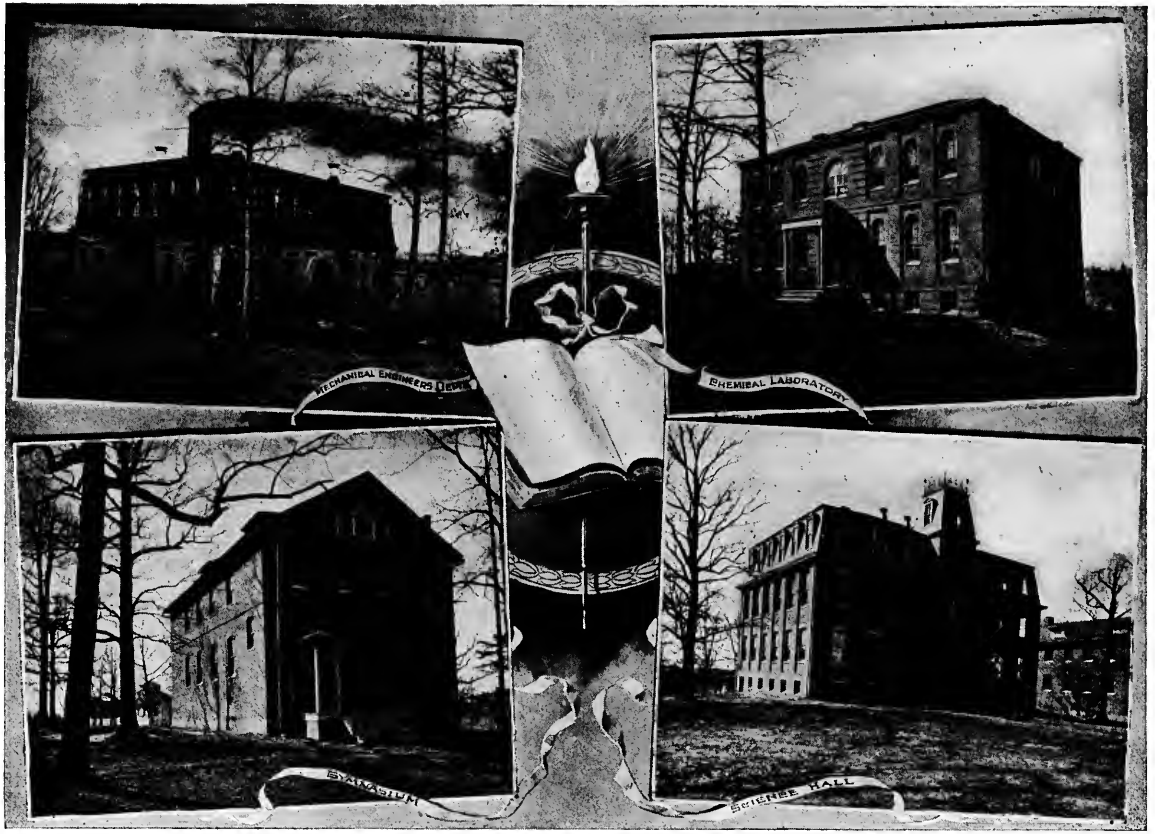
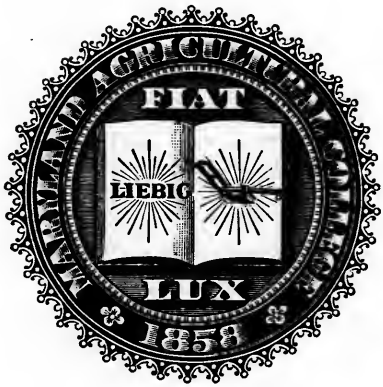


COLLEGE BUILDINGS.

THE

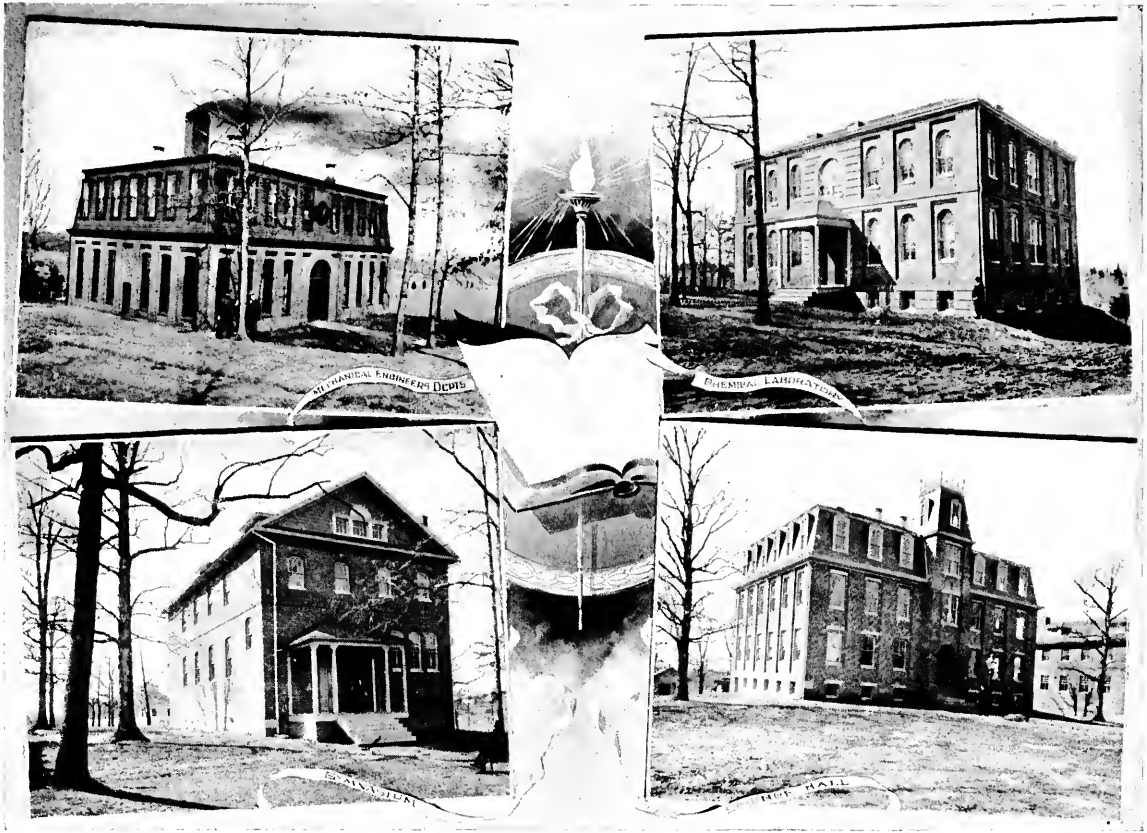
MARYLAND

AGRICULTURAL COLLEGE



CATALOGUE.

YEAR 1900-'01.



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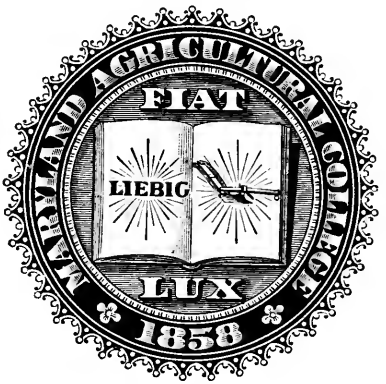

CATALOGUE.

YEAR 1900-'01.

Board of Trustees.

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Hon. John Hubner..... ...President of the Senate.

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Chas. W. Slagle, Esq., Baltimore, Md.....Term expires 1902.

W. S. Whiteford, Esq., Whitefords, Md..... " " 1902.

J. M. Monroe, Esq., Anne Arundel Co., Md..... " " 1904

Hon. Chas. H. Evans, Baltimore, Md..... " " 1904.

C. J. Purnell, Esq., Snow Hill, Md..... " " 1906.

Hon. David Seibert, Clear Spring, Md..... " " 1906.

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Messrs. Stanley, Vandiver, Monroe, Evans, Smith and Whiteford.

Officers and Faculty of Instruction.

R. W. SILVESTER,

President and Professor of Mathematics.

*————————	Professor of English and Civics.
W. T. L. Taliaferro	Prof. of Agriculture.
Harry Gwinner, M. M. E.	Prof. Mechanical Engineering.
H. B. McDonnell, M. D., B. S.	Prof. of Chemistry.
Henry Lanahan, A. B.	Prof. Civics and Civil Engineering.
James S. Robinson	Prof. of Horticulture.
W. G. Johnson, A. M.	Prof. of Entomology.
C. O. Townsend, Ph. D.	Prof. Pathology and Botany.
Thos. H. Spence, A. M.	Prof. of Languages.
F. B. Bomberger, B. S.	Professor of English and Civics.
Samuel S. Buckley, M. S., D. V. S.	Prof. of Veterinary Science.
Henry T. Harrison,	Principal of Preparatory Department.
Chas. S. Richardson,	Director of Physical Culture and Instructor in Elocution.
J. H. Mitchell, M. E.	Assistant in Mechanical Engineering.
H. P. Gould, M. S.	Assistant in Entomology.
G. L. Stewart, B. S.	Assistant in Pathology and Botany.
J. R. Laughlin, B. S.	Assistants in Chemistry (State Work).
M. N. Straughn, B. S.	
J. B. Robb, B. S.	
T. R. Gough, B. S.	
C. G. Church, B. S.	
George S. Edelen, B. S.	Assistant in Chemistry (Collegiate Work).
Jos. R. Owens, M. D.	Registrar and Treasurer.
W. O. Eversfield, M. D.	Physician in Charge.
Miss M. L. Spence,	Typewriter and Stenographer.

*Will be supplied.

Calendar for 1900–1901.

FALL TERM.

September 20-22 .....Entrance Examinations.

September 24, ...Monday, 9 A. M. College Work Begins.

October 12, ...Friday, Meeting of the Board of Trustees.

December 21, ...Fall Term Ends.

December 14, ...Friday, Meeting of the Board of Trustees.

December 21, noon, January 2, noon.....Christmas Holidays.

WINTER TERM.

January 2, ...Winter Term Begins.

March 8, ...Friday, Meeting of the Board of Trustees.

April 3, ...Winter Term Ends.

April 4, noon, 9, noon.....Easter Holidays.

SPRING TERM.

April 10, ...Spring Term Begins.

June 1-14, ...Final Examinations.

June 14, ...Friday, Meeting of the Board of Trustees.

June 16, ...Sunday, Baccalaureate Sermon 4 P. M.

June 17, ...Class Day.

June 18, ...Alumni Day.

June 19, ...Commencement Day, Exercises 11 A. M.

HISTORICAL SKETCH.

As some misapprehension seems to exist in the mind of the general public as to the exact nature of the instruction offered by the Maryland Agricultural College and the function of the institution as a part of the educational system of the State, it is thought advisable at this time to make some very definite statement of the precise character of the work of the College, its *raison d'etre*, and the aims and hopes of the present administration in endeavoring to carry out to the fullest extent the ambitions and ideals of its founders. A brief account of the origin and history of the institution may serve to make clear its purpose and the scope of its work.

The Maryland Agricultural College was incorporated by an Act of the General Assembly of Maryland, dated March 6th, 1856, at a time when but one other such institution existed in the United States. Its express purpose was defined to be, "To instruct the youthful student in those arts and sciences indispensable to successful agricultural pursuit." Under the charter thus granted to a party of public-spirited private individuals, the original college building was erected and its doors opened to students in the fall of 1859. For three years it was conducted as a private institution; but in 1862 the Congress of the United States, recognizing the valuable work in the cause of practical education which such colleges were doing for the country, passed the "Land-grant Act," providing for the establishment and maintenance of agricultural colleges, by applying for that purpose a proportionate amount of unclaimed Western land, in place of scrip, to each State and Territory in the Union. This grant having been formally accepted by the General Assembly of Maryland, and the Maryland Agricultural College being named as the beneficiary of the grant, the College thus became, in part, at least, a State institution, and such it is at the present time.

In 1887 the Federal Congress passed a second important Act in aid of the agricultural interests, appropriating $15,000 a year for the establishment and maintenance of agricultural experiment stations. The Maryland station was located on the college farm, and was made a department of the College. In 1892 the Board of Trustees so far separated it from the college as to put it under a special Director, who is directly responsible to the Board. The function of the Experiment Station is the investigation of those agricultural problems of most interest and concern to the farmers of the State, and the publication and dissemination of the results of such experiments, in the form of bulletins, for the information and guidance of those interested in agriculture. Since the inception of the Experiment Station, its influence has steadily increased and its sphere of usefulness has constantly widened, until it is now a well recognized factor in the agricultural development of Maryland.

Once more, in 1892, the Federal Government came to the aid of the agricultural and mechanical colleges. By the Act of Congress of that year an annual appropriation of $15,000, to be increased by $1,000 each year until the sum of $25,000 was reached, was granted each State, to be applied to the further equipment and support of the agricultural and mechanical colleges. The primary object of this legislation was the development of the departments of agricultural and the mechanical arts, and the branches kindred thereto. Maryland, as was the case in all the States of the South, in order to comply with the terms of the Act of Congress, divided this fund between the State Agricultural College and a somewhat similar institution for the education of colored students, located at Princess Anne, on the Eastern Shore of Maryland.

During the last seven years the history of the College has been that of steady growth. This fact is evidenced by the increased numbers of students availing themselves of its facilities; by the erection of many new buildings—the library and gymnasium building, the new chemical laboratory, the mechanical engineering building, the Morrill Hall and the new college barn—as well as by the establishment of the Department of Farmers' Institutes and the Departments of State Entomology and State Pathology. Under such favorable auspices the institution must continue to grow, and ultimately reach the status of being the most important factor in the agricultural and industrial development of the State.

LOCATION AND DESCRIPTION.

The Maryland Agricultural College is located in Prince George's County, Maryland, on the line of the Washington Branch of the B. & O. R. R., eight miles from Washington, and thirty-two miles from Baltimore. At least ten trains a day, from each city, stop at College Station, thus making the place easily accessible from all parts of the State.

The telegraph station is Hyattsville, connected with the college by a private telephone line.

The college grounds front on the Baltimore and Washington turnpike. The suburban town of Hyattsville is two and one-half miles to the south, and Laurel, the largest town in the county, is thirteen miles to the north, on the same road. Connection with Washington by the District and Suburban Electric Railway has recently been established.

The site of the college is particularly beautiful. The buildings occupy the crest of a commanding hill, covered with forest trees, and overlooking the entire surrounding country. In front, extending to the turnpike, is a broad, rolling campus, the drill ground and athletic field of the students. In the rear are the farm buildings and barn. A quarter of a mile to the northeast are the buildings of the Experiment Station. The college farm contains about three hundred acres, and is devoted to the gardens, orchards, vineyard and to general farming.

The main college building is of brick, five stories in height. It contains the students' quarters, mess hall, chapel, lecture rooms and offices. The dormitories are large, well ventilated, and provided with fire escapes and bath and water rooms. All the buildings are lighted with gas and heated with steam from central plants on the college grounds. During the past summer extensive improvements were made in the plumbing and sanitary arrangements of the building. An addition to the main building has been erected, containing commodious bath rooms on each floor, with the most modern appliances for the comfort and health of the students.

The Mechanical Engineering Department is located in a new two-story brick building, completed in 1896, and now thoroughly equipped. It contains workshops for carpentry and forging, machinery rooms, a drawing room, library and office. It is a model building of its kind.

The new chemical building was completed in 1897, and is now thoroughly equipped. It contains several lecture rooms, laboratories for practical work and for the analysis of fertilizers and feeding material for domestic animals, which work is assigned to the Professor of Chemistry at this college by an Act of the General Assembly. He is thus the State Chemist.

In 1894 the present building of the gymnasium and library was erected. The gymnasium on the ground floor is well furnished with modern athletic appliances. The library and reading room is on the second floor, and is a large, well lighted and convenient room for the purpose.

One of the most noteworthy additions to the group of college buildings is the new Morrill Hall, now completed. The building provides ample accommodations for the Departments of Agriculture, Horticulture, Biology, Physics, Entomology, Pathology and Veterinary Science, thus relieving the pressure of close quarters, from which these departments have suffered, and greatly extending their opportunities for the development of high-grade scientific work.

Another important improvement to the working facilities of the college and farm is the erection of a new and model barn. Especial attention is invited to the arrangement of this building, which is in many ways an example of an almost perfect general utility farm building.

The general appearance of the college grounds is exceedingly attractive. They are tastefully laid off in lawn and terraces, with ornamental shrubbery and flower plots, and the view from the grove and campus cannot be surpassed.

The location of the college is entirely healthful; the sanitary conditions are excellent. No better proof of this can be given than that there has been no really serious case of illness among the students for nearly ten years.

GENERAL AIM AND PURPOSE.

The Agricultural College is the State School of Science and Technology. While seeking, first of all, to perform the functions of an agricultural college, its sphere of work has been widened to embrace all the sciences akin to agriculture, and all the arts related to mechanical training. To these special and prominent lines of work have been added such branches of study as are necessary for a liberal education, for the development of the intelligent citizen, and the making of the man of general culture. The purpose of this college is to give to young men anxious to prepare themselves for the active duties of life, such training in the sciences or in the mechanical workshop as will enable them to take their places in the industrial world well prepared for the fierce competition of the day.

Recognizing that such an education, in order to be of practical advantage to the many, must be offered at a cost within the means of all, the expenses for the year to the student have been reduced to the point where his college dues are not in excess of his ordinary daily expenses. It is to be remembered that the college is a State institution, in part supported by the State, in part by the Federal Government, through its several endowment Acts, and that it is in no sense a money-making institution, but simply a medium of disbursement by the government to those classes upon whom the safety and prosperity of the State so largely depend.

While the college provides, as will hereinafter be explained, several distinct courses of instruction, looking to the special training of the student in agriculture, mechanical engineering, the natural and physical sciences and belle lettres, the fact is clearly kept in view that a sound foundation must be laid for each and every course. Successful specialization is only possible after the student has been prepared for it by a thorough training in the essentials. All education must be narrow and one-sided which does not provide for the general culture of the student, and which does not look first to the natural and normal development of the individual. The general working plan of the college may be thus described: It begins with the student in his first, or Freshman year, a systematic and carefully adjusted scheme of work, differing but little in the several courses, and looking to his general development in mental strength, range of information and power of expression and thought. At the beginning of his second, or sophomore year, differentiation may be said to begin along those lines in which he shows most natural aptitude. This gradual specialization continues during his third or junior year, until in his last, or senior year, his work consists wholly of one or more closely connected topics in which he is thus able thoroughly to prepare himself. With the present equipment of the laboratories and mechanical workshops, a student is able to become so pro-

ficient in his chosen line of work that when he leaves the college a career is open to him if he chooses to avail himself of it.

The Agricultural College is, legitimately, the crowning point of the Public School System of Maryland. Its aim is to provide a higher education to the graduates of the county schools. To this end its curriculum is adjusted to meet the preparation of such students. It is this class of young men that the college is especially desirous of reaching. Experience has shown that our most satisfactory students come as graduates from the county schools; and no efforts will be spared to make the transition from the high school or grammar school to the college a possible one for all those actuated by an earnest desire to complete their education.

DEPARTMENTS—EQUIPMENT AND WORK.

The following is a brief account of the equipment of the several departments of the college, and the general character of the instruction given in each.

AGRICULTURAL DEPARTMENT.

Prof. W. T. L. Taliaferro.

The Agricultural Department offers four courses—(a) a four-years' course leading to the degree of B. S.; (b) a special two-years' course; (c) a special creamery course; (d) a six-weeks' winter course.

Outline of Four Years' Course, Freshman Year:

First Session, Course I.—No. hours per week: 3 recitative, 4 practical. The general principles of agriculture, including the composition of soils and plants, the mechanical conditions of soils, elementary drainage, cultivation of the soil, plant reproduction, manures and fertilizers, rotation of crops, food and manure value of crops, farm live stock.

This course aims to give a comprehensive, though elementary knowledge of the principles and practice of agriculture, and is arranged on the basis of a minimum of theory and a maximum of facts. Gulley's "First Lessons in Agriculture" is used as a text-book, but the greater part of the work is in the fields and stables.

Second Session, Course II.—No. hours per week: 2 recitative, 3 practical. (a) Stock judging and the study of breeds of stock in detail, including history, purpose and characteristics of the principal breeds. Curtis' "Horses, Cattle, Sheep and Swine" is used as a text-book, but is combined with a critical comparative study of the College and Station live stock.

Spring crops, preparation of land for cultivation, fertilization. Text-book, Morrow & Hunt's "Soils and Crops," in connection with

laboratory work and field notes on the spring work on the College and Station farms.

Sophomore Year, First Session, Course III.—No. hours per week: 2 recitative, 3 practical. (a) Fall crops, preparation of land for fertilization, planting, harvesting, conducted by text-book (Morrow & Hunt's "Soils and Crops"), laboratory work and systematic field notes; (b) the study of the physical and chemical conditions of soils in their relation to agriculture. The soil is the basis of all agriculture, and a knowledge of its properties and functions cannot be too strongly emphasized. The study of this important subject is conducted by means of laboratory and field work, lecture and text-book, Prof. King's ("The Soil").

Second Session, Course IV.—No. hours per week: 2 recitative, 3 practical. (a) The study of soils, continued; (b) farm drainage; practical work and text-book (Waring's "Drainage for Profit and Health"); (c) Farm machinery and cultivation of spring crops. Lecture and practice work, field notes.

Junior Year, Second Session, Course V.—No. hours per week: 2 recitative. The principles of stock breeding. The wonderful success which has attended the efforts of well-informed and judicious breeders on the one hand, and on the other the greater number of practically worthless animals to be found in the country, clearly illustrate the need on the part of the general farmer for a more intimate knowledge of, and a closer attention to, the principles which underlie this important branch of farming. Miles' "Stock Breeding" is the text-book in the course, but is reinforced by the study of the breeding and records of noted animals in all of the principal breeds.

Senior Year, First Session, Course VI.—Hours per week: 10 (a) Stock Feeding; lectures and practical work; reference books, Henry's "Feeds and Feeding," Stewart's "Feeding Animals," Experiment Station and United States Agricultural Department bulletins; (b) Fertilizers and soil fertility; text-books, Roberts' "Fertility of the Land;" (c) Farm accounts and management; lectures and practical work.

Second Session, Course VII.—No. hours per week: 10. (a) Dairy. (b) Farm specialties, poultry, bee-keeping, forestry, etc., thesis work.

Mr. Doane.

DEPARTMENT OF MECHANICAL ENGINEERING.

Professor H. Gwinner, and J. H. Mitchell, Assistant.

FRESHMAN YEAR.

First Session.....Course I.

Mechanical Drawing:—Two-hour lectures and recitations. Six

hours practice in problems of projections and copying of details of machinery; the plates upon completion being enclosed in neat covers properly titled by the student. Text-book, Rouillion's "Mechanical Drawing."

Mr. Mitchell.

Technical Instruction:—Two hours per week. Lectures and recitations on the necessity of mechanical drawing in its relation to shop work and the explanation of the reading of drawings in connection with the finished product. The proper cutting of angles, care and adjustment of wood-working tools. Wood:—Its shrinking, warping and how to correct and prevent it. Relative strength of joints. Text-book, Goss' "Bench Work in Wood."

Mr. Mitchell.

Laboratory Work:—Six hours per week. Uses of the ordinary carpenter tools in the manufacture of ordinary joints and small tables; exercises in the principles of wood turning.

Prof. Gwinner.

Second Session.....Course II.

Mechanical Drawing:—Six hours practice per week. Drawing the details of simple machines and various styles of lettering, suitable for commercial work. Text-book, Rouillion's "Mechanical Drawing."

Mr. Mitchell.

Laboratory Work:—Six hours per week. Exercises in the making of glue and doweled joints, as used in pattern making and cabinet work. Inside and outside chucking for wood turning. The making of patterns for one or more sets of machines.

Prof. Gwinner.

SOPHOMORE YEAR.

First Session.....Course III.

Mechanical Drawing:—Four hours per week. Care and manipulation of drawing instruments and materials. Free-hand sketching of details of machinery and drawing to scale from these sketches. Text-book, Anthony's "Mechanical Drawing."

Mr. Mitchell.

Technical Instruction:—One hour per week. Lectures on the manufacture and management in the forge of iron and steel.

Mr. Mitchell.

Elementary Applied Mechanics:—Three hours per week. Under this branch of service is studied the transmission of power by belts and pulleys, the results of forces acting upon bodies, bolts, nuts and screws, hydraulic jack, inclined plane and the laws of friction. Text-book, Jamieson's "Applied Mechanics."

Prof. Gwinner.

Laboratory Work:—Four hours per week. Exercises in blacksmithing; which include the elementary operations of drawing out, upsetting, bending and welding of iron and the making and tempering of steel tools.

Mr. Mitchell.

Second Session.....Course IV.

Mechanical Drawing:—Six hours per week. Tracing and blue printing and the representation of flat and round surfaces by ink shading. Text-book, Anthony's "Mechanical Drawing."

Mr. Mitchell.

Laboratory Work:—Six hours per week. Molding and casting in iron and management of the cupola during the process of melting and pouring off of iron.

Mr. Mitchell.

JUNIOR YEAR.

First Session.....Course V.

Machine Drawing:—Four times per week. Elementary machine drawing, tracing and blue printing. Text-book, Anthony's "Machine Drawing."

Prof. Gwinner.

Laboratory Work:—Six hours per week. Elementary principles of vise and machine work, which include turning, planing, drilling, chipping and filing. This is preceded by a study of the different machines used in the machine shops.

Mr. Mitchell.

Second Session.....Course VI.

Descriptive Geometry:—Three hours per week. Its relation to mechanical drawing, and solution of problems relating to magnitudes in space, bearing directly upon those mostly needed by the engineer. Text-book, Faunce's "Descriptive Geometry."

Prof. Gwinner.

Steam Engines and Boilers:—Three hours per week. The principles of the steam engine and a study of the prominent types of modern engines. The slide valve and valve diagrams. The indicator and its diagrams. Steamboilers—the various types and their advantages and the method of construction. Text-book, Jamieson's "Steam Engines," Low's "Power Catechism."

Prof. Gwinner.

Elementary Machine Design:—Four hours per week. The designing of bolts, nuts, screws and wrenches. Text-book, Low's "Introduction to Machine Drawing and Design."

Mr. Mitchell.

Laboratory Work:—Four hours per week. Continuation of elements of vise and machine work of Course V.

Mr. Mitchell.

SENIOR YEAR.

First Session.....Course VII.

Machine Design:—Four hours per week. The calculation and design of pipes, riveted joints, belt and tooth gearing. Text-book, Low & Bevis' "Machine Drawing and Design."

Prof. Gwinner.

Laboratory Work:—Eight hours per week. Advanced machine work. The laying out, assembling and construction of some piece of machinery—such as an engine, lathe or dynamo.

Prof. Gwinner and Mr. Mitchell.

Second Session.....Course VIII.

Testing Laboratory:—From two to four hours per week. A course in experimental engineering. The micrometer and its uses, oil testing, determining the co-efficient of friction, the calibration of the planimeter and steam gauges, slide valve setting and indicator practice.

Prof. Gwinner and Mr. Mitchell.

Engine Designing:—Six hours per week. The calculation, designing and executing the working drawings of the various parts of a well-known type of stationary steam engines.

Prof. Gwinner and Mr. Mitchell.

Laboratory Work:—Ten hours per week. Advanced machine work, being a continuation of Course VII.

Prof. Gwinner and Mr. Mitchell.

Tours of Inspection:—The members of the Senior Class go to Baltimore or Washington, for the purpose of inspecting well-known manufacturing plants.

EQUIPMENT.

The Mechanical Engineering Laboratory is a two-story brick building, 45 feet by 60 feet, contains the carpenter, forge and foundry, and machine shops, one drafting and two lecture rooms. An annex, 25 feet by 50 feet, contains two 60-horse power boilers, which furnish steam for power, heat and experimental purposes.

The carpenter shop contains accommodations for twelve students in bench work and wood turning. The power machinery in this shop is a band and circular saw, five 12-inch turning lathes and a grinding stone.

In the forge shop are nine power forges, one hand forge, a pressure fan and exhauster for keeping the shop free of smoke. There is a full assortment of smith tools for each forge. The moulding and casting is done in the same room as the forge work, and great attention is given this branch as a knowledge of the foundry work is very essential to the engineer. The foundry is equipped with a Whiting cupola, which melts 1,200 pounds of iron per hour, and the necessary flasks and tools.

The machine shop contains one Reed 10-inch speed lathe, one 24-inch Gray planer, one 12-inch Reed combined foot and power lathe, a Diamond No. 4 emery tool grinder, one 14-inch Reed engine lathe, a Snyder 24-inch drill press and an assortment of vices, taps, dies, pipe tools and measuring instruments.

An 8-inch by 12-inch engine drives the machinery of the different shops. It was presented to the college by the city of Baltimore and secured through the efforts of Com. John D. Ford, of the U. S. N.

The drafting room is well equipped for practical work, having suitable benches, lockers and blue print facilities.

DEPARTMENT OF MATHEMATICS.

PROF. R. W. SILVESTER.

Mathematics is the basis upon which scientific information rests. A knowledge of the study is necessary, as much from the utilitarian point of view as from the mental training its acquisition gives. Its importance as a factor in our college course takes its rise from the former consideration. All instruction in this work is with a view to the equipping of students for the more practical work soon to follow.

The class work in mathematics in the several courses consists of

arithmetic, bookkeeping, algebra, geometry (plane and solid), trigonometry, plane and spherical), descriptive geometry, in its application to mechanical drawing, analytical geometry, differential and integral calculus, in their application to mechanics, engineering and physics and surveying.

In the applied mathematics, bookkeeping is taught every student. No matter what vocation a man intends to follow, a knowledge of business forms and methods of systematic accounts is a requisite to success. To be able to use an ordinary compass or transit, for the purpose of laying out, dividing and calculating the area of land, or of running outlines and leveling for the purpose of drainage, is a necessary accomplishment for every intelligent farmer.

FRESHMAN YEAR.

First Session.....Course I.

Number of hours per week, five. Algebra—Wentworth's complete, as far as Logarithms.

Henry T. Harrison, Professor.

Second Session.....Course II.

Number of hours per week, three. Algebra—Wentworth's completed; Geometry—First three books of Wentworth's Plane Geometry.

Henry T. Harrison, Professor.

SOPHOMORE CLASS.

First Session.....Course III.

Number of hours per week, four. Geometry, plane and solid, completed.

Second Session.....Course IV.

Number of hours per week, five. Trigonometry, completed.

R. W. SILVESTER, Professor.

JUNIOR CLASS.

First Session.....Course V.

Number of hours per week, five. Analytics, completed.

R. W. SILVESTER, Professor.

Second Session.....Course VI.

Number of hours per week, four. Differential Calculus.
Henry Lanahan, Professor.

SENIOR CLASS.

First Session.....Course VII.

Integral Calculus. Henry Lanahan, Professor.

DEPARTMENT OF ENGLISH AND CIVICS.

Professor F. B. Bomberger.

This department, as its names implies, covers the work of two distinct courses of instruction. It seeks to prepare the student by systematic training in the history, structure and use of the English language, for the highest development of his mental powers and for the complex duties and relations of life; and further, to fit him for the active and intelligent exercise of his rights and duties as a man and citizen.

The course in English of necessity lies at the base of all other courses of instruction. A clear and comprehensive knowledge of his mother tongue is absolutely necessary to the student in pursuing any line of college work. Nor is this all, for aside from the practical value of the English instruction as an aid to other branches of study, and as a preparation for business and profession, it is to his training in this department, in connection with his study of history and the classics and modern languages, that the student must look for the acquiring of that general culture that has always been the distinguishing mark of the liberally educated man. The English work, which is common to all courses, consists of the study of the structure of the English language, literature (English and American), theoretical and practical rhetoric, logic, critical reading and analysis, and constant exercise in expression, composition and thesis writing.

The course in civics is especially designed to prepare young men for the active duties of citizenship. The first two years are devoted to the study of general history, followed by the principles of civil government, constitutional history, political economy, with special reference to current social and industrial problems, and, finally, lectures on the elements of business law.

ENGLISH COURSES.

FRESHMAN YEAR.

First Session.....Course I.

All students. Five hours per week. English language, review of grammar, practical exercises in analysis and synthesis, composition and letter-writing, study of roots and affixes.

Second Session.....Course I. (Continued.)

All students. Five hours per week. English language and practice continued.

SOPHOMORE YEAR.

First Session.....Course II.

Classical, Scientific and Mechanical students. Four hours per week. Principles and practice of Rhetoric.

First Session.....Course III.

All students. One hour per week. Practical thesis work.

Second Session.....Course IV.

Classical and Mechanical students. Three hours per week. Principles and practice of Logic.

Second Session.....Course III. (Continued.)

All students. One hour per week. Practical thesis work.

JUNIOR YEAR.

First Session.....Course V.

Classical students only. Three hours per week. English literature. Text-book, lectures and readings.

First Session.....Course III. (Continued.)

All students. One hour per week. Practical thesis work.

Second Session.....Course VI.

Classical students only. Three hours per week. American literature. Text-book, lectures and readings.

Second Session.....Course III. (Continued.)

All students. One hour per week. Practical thesis work.

SENIOR YEAR.

First Session.....Course VII.

Classical students only. Three hours per week. Critical study of English classics.

First Session.....Course VIII.

Classical students only. Three hours per week. Principles of Psychology. Text-book and lectures.

First Session.....Course III. (Continued.)

All students. One hour per week. Practical thesis work.

Second Session.....Course VII. (Continued.)

Classical students only. Three hours per week. Critical study of English classics.

Second Session.....Course VIII. (Continued.)

Classical students only. Three hours per week. Principles ot Psychology. Text-book and lectures.

Second Session.....Course III. (Continued.)

All students. One hour per week. Practical thesis work.

HISTORY AND CIVICS COURSES.

FRESHMAN YEAR.

Prof. F. B. Bomberger.

First Session.....Course I.

Classical students only. Four hours per week. Outlines of ancient history. Text-book and lectures.

Second Session.....Course I. (Continued.)

Classical students only. Course continued. Four hours per week.

SOPHOMORE YEAR.

First Session.....Course II.

Classical students only. Three hours per week. Outlines of medieval and modern history. Text-book and lectures.

Second Session.....Course II. (Continued.)

Three hours per week.

JUNIOR YEAR.

First Session.....Course III.

Civil government in the United States. Two hours per week. Classical, chemical, biological and mechanical students.

Second Session.....Course III. (Continued.)

Two hours per week.

SENIOR YEAR.

First Session.....Course IV.

Classical students only. Three hours per week. Principles of political economy.

First Session.....Course V.

All students. One hour per week. Lectures on constitutional law.

Second Session.....Course IV.

Classical students (Continued). Three hours per week.

Second Session.....Course VI.

All students except classical. Three hours per week. Economic science and current problems.

Second Session.....Course VII.

All students. One hour per week. Lectures on business law.

DEPARTMENT OF CHEMISTRY.

Prof. H. B. McDonnell. G. S. Edelen, Assistant.

The Chemical Department occupies the new chemical laboratory building, a substantial and commodious brick structure, which is located about 100 yards north of the main building. It contains, on the first floor, a lecture room, preparation room, office, and two laboratories, with communicating balance room, which are used for State work. On the second floor are the students' laboratories, one for each class, a supply room and students' balance room. The department has a reference library of standard works, which is being gradually increased. The equipment of the laboratory is unusually full and complete.

Instruction in chemistry is both theoretical and practical. Each student is assigned to a laboratory desk, which is provided with gas and water connections, and an outfit of chemicals and apparatus, for which he is held responsible, being charged for apparatus broken. This charge has averaged less than one dollar per year for Sophomores, and less than two dollars per year for Juniors and Seniors.

Students making a specialty of chemistry are allowed to use the laboratories at any time between the hours of 8 A. M. and 5 P. M., and are encouraged to devote more time to practical work than is called for by the schedule. Such students have, invariably, been able to secure positions after graduation.

The outline of the course, with names of text-books used and the number of hours per week, is as follows:

SOPHOMORE YEAR.

First Session.....Course I.

"Introduction to the Study of Chemistry," Remsen's; recitative 4; practical, 3.

Second Session.....Course I.

The same as first session; recitative, 3; practical, 5;

JUNIOR YEAR.

First Session.....Course II.

"Qualitative Analysis," Mason's; recitative, 2; practical, 6; "Determinative Mineralogy," Brush's; recitative, 2; practical, 4.

Second Session.....Course III.

"Advanced Chemistry," Remsen's; recitative, 4; practical, 4; "Quantitative Analysis" and "Assaying," practical, 6.

SENIOR YEAR.

First Session.....Course IV.

"Organic Chemistry," Remsen's; recitative, 4; determination of molecular and atomic weights, organic analysis, analysis of fodder, feed stuffs, water, sugar, organic experiments, assaying, etc; practical, 10.

Second Session.....Course V.

The work of this session will be arranged to suit the requirements of the individual student, and will consist mainly in the preparation of a thesis, involving some original research; recitative, 4; practical, 10.

POST-GRADUATE COURSES.

Advanced courses in general and technical chemistry and quantitative analysis are arranged to meet the wants of individual cases.

For graduates who have completed the five courses, as above, or their equivalent, courses are arranged leading to the degree of M. S. It is possible, by diligent application, to complete such a course in one year's work. A thesis is required.

DEPARTMENT OF PHYSICS.

Professor H. Lanahan.

The Physical lecture-room and laboratory are located in Morrill Hall, in rooms excellently adapted to the purpose. The department is well supplied with apparatus for lecture-room demonstrations and for students' individual laboratory work, and new pieces of apparatus are added to the equipment each year.

SOPHOMORE YEAR.

First Session.....Course I.

Elementary Physics, three periods per week.

The course consists of lectures, recitations and experimental dem-

onstrations by the instructor, on the mechanics of solids, liquids and gases. The student is required to work a number of problems, and his attention is directed to the practical applications of the principles studied. Text, Carhart & Chute's "Elements of Physics."

JUNIOR YEAR.

Both Sessions.....Course II.

Physics:—Four periods per week class-room work, and four periods per week laboratory work.

The course begins with a review of mechanics, after which heat, sound, electricity and magnetism, and light are taken up successively, by lectures, recitations, problems and demonstrations. A knowledge of the elements of plane trigonometry is required for entrance. The laboratory work consists of a series of experiments, mainly quantitative, designed to illustrate and verify the laws and principles considered in the class-room, and to develop in the student skill in manipulation, and accuracy in making precise measurements. Written reports of the work done in the laboratory are required weekly. The text-books used are "Theory of Physics," Ames, and "Manual Experiments in Physics," Ames and Bliss.

SENIOR YEAR.

Both Sessions.....Course III.

More advanced work will be provided for students who have completed the preceding courses and who wish to continue the study of physics.

DEPARTMENT OF CIVIL ENGINEERING.

Professor Lanahan.

JUNIOR YEAR.

Both Sessions.....Course I.

Surveying:—Two periods per week class-room work; three periods per week field practice.

The course includes the use and adjustment of engineering instruments; the methods of land surveying; the platting and computing of areas; the dividing of land; leveling, and topographical surveying. Text, Davies' "Surveying." If time permits, the methods of locating

and staking out new roads will be taken up, and some attention given to road construction. The department is equipped with two surveyor's compasses, a Gurley transit, with solar attachment, and a 20-inch Gurley level.

SENIOR YEAR.

First Session.....Course II.

Graphic Statics:—Three periods per week.

Including the theory and practice of the graphical methods of determining stresses in framed structures, particularly roof trusses; and bending moments and shears in beams. The course is based on Hoskins' Graphic Statics, and many of the problems are solved analytically as well as graphically.

Second Session.....Course II. (Continued.)

Strength of Materials:—Three periods per week.

Treating of the elasticity and resistance of materials and construction, and the mechanics of beams, columns and shafts. The text used is Merriman's "Mechanics of Materials," and a knowledge of integral calculus is required for entrance to the course.

DEPARTMENT OF HORTICULTURE.

Professor J. S. Robinson, H. P. Gould, Assistant.

FRESHMAN YEAR.

Second Session.....Course I.

Four hours per week. Lectures and practical work,—two periods consecutive: First, Methods of propagation of plants, (a) seeds, Study of methods of germination, seeding and vitality; (b) Grafting; (c) Cuttings; (d) Layers. 2. Character of soils as best adapted to different fruits and vegetables: (a) Methods of modification of soils. 3. Preparation of soil for planting and cultivation of fruits and vegetables. 4. Manures, compost and fertilizers for fruits and vegetables. 5. Hotbeds and Cold-frames. Required preparations:—General knowledge of soils and proper soil conditions, and a general knowledge of the principles of soil fertilization, cultivation of plants and plant reproduction.

Prof. Robinson and Mr. Gould.

SOPHOMORE YEAR.

First and Second Sessions.....Course II.

Three hours per week. Lectures and practical work, two periods consecutive. 1. Pruning—Theory and practice. (a) Orchard fruits; (b) Small fruits; (c) Vines. 2. Planting and cultivation of small fruits. 3. Production of variety. (a) Pollination; (b) Cross-breeding. 4. Practical work in the greenhouse, with familiar talks on operations performed. 5. Gathering and marketing small fruits and vegetables. Required preparation:—Knowledge of elementary Physics, and a general knowledge of farm machinery and functions of plant organs.

Prof. Robinson and Mr. Gould.

JUNIOR YEAR.

First Session.....Course III.

Three hours per week. Lectures and practical work,—two periods consecutive. 1. Propagation by budding. 2. Identification of varieties of the orchard fruits. 3. Canning and preserving of fruits and vegetables. 4. Winter gardening under glass.

Prof. Robinson and Mr. Gould.

Second Session, (First Half).....Course IV.

Landscape gardening. Two consecutive periods per week.

The treatment of the subject is with special reference to the improvement of the home surroundings, and the use of native plants in their decoration; the making of lawns and the laying-out and construction of drives.

Mr. Gould.

Second Session, (Second Half).....Course V.

Spraying of plants. Two consecutive periods per week. A discussion of the principles underlying the operation; and examination of the apparatus used; the preparation of insecticides and fungicides, together with practical demonstration in the field. The reference book:—Lodeman's "The Spraying of Plants."

Mr. Gould.

SENIOR YEAR.

First Session.....Course VI.

Three hours per week. Two consecutive lectures. The course of instruction for this year is intended to give an opportunity for those

who may desire to specialize along some particular line of horticultural work. Those selecting a particular line of work from the enumeration given will be required to conduct some special investigation in that direction, and write a thesis upon the same. 1. Orchard management; (a) Selecting location; (b) Selection of varieties; (c) Methods of planting; (d) Methods of pruning to accomplish special objects; (e) Cultivation and fertilization. 2. Small fruits and truck farming. 3. Greenhouse management; (a) Vegetables; (b) Floral. 4. Markets, foreign and domestic. 5. Storage of fruits and vegetables. 6. Transportation.

Prof. Robinson and Mr. Gould.

Second Session.....Course VII.

Plant variation and plant breeding. Two periods per week. The fact and philosophy of variation; the effects of soil, climate, cultivation and other ameliorating influences upon plants. The crossing and hybridizing of plants and their limits; the importance of the cross and its relations to practical horticulture; breeding for a special purpose; selection, heredity, and the origin of domestic varieties.

Reference Books:—Bailey's "Survival of the Unlike," Bailey's "Plant Breeding," Darwin's "Cross and Self-Fertilization in the Vegetable Kingdom," Darwin's "Animals and Plants under Domestication."

Mr. Gould.

DEPARTMENT OF VETERINARY SCIENCE AND ZOOLOGY.

Professor Samuel S. Buckley.

SOPHOMORE YEAR.

First Session.....Course I.

Six hours per week for students in General Science course; four hours per week for students in Agricultural course.

Elementary Biology:—A study of the microscope and microscopic methods. The lower forms of plant and animal life. This course is obligatory for those who wish to pursue advanced work in this department, in botany or entomology.

Second Session.....Course II.

Two lectures and two hours laboratory work per week for students in General Science and Agricultural courses.

Comparative Anatomy and Physiology:—Special reference to the processes of nutrition. Laboratory work will consist of dissections and tests, illustrating some of the chemical changes occurring within the body. Students in the General Science course will receive one extra lecture per week.

JUNIOR YEAR.

First Session.....Course III.

Two lectures and four hours practical work for students in the Biological and Agricultural courses.

Comparative Anatomy and Physiology:—The organs of locomotion, form and action. Disorders of nutrition and of locomotion.

Second Session.....Course IV.

Two lectures and four hours laboratory work per week for students in Biological and Agricultural courses.

Vertebrate Zoology:—This course is adapted to the requirements of courses depending upon it, and will be largely practical.

SENIOR YEAR.

First Session.....Course V.

Two lectures and six hours of practical work per week. Diseases and accidents; emergency treatment; the administration of medicines; means of restraint; care and management; nursing; shoeing. This course may be elected as a minor.

Second Session.....Course VI.

Two lectures and six hours of practical work per week.

Second Session.....Course V. (Continued.)

Students electing Veterinary Science as a major subject must have completed Courses I to IV, inclusive. The course will conform to requirements of the subject of the Graduating Thesis, and must be equivalent to at least ten hours of recitative work throughout the year.

DEPARTMENT OF ENTOMOLOGY.

Prof. W. G. Johnson, H. P. Gould, Assistant.

The instruction in this department is given by means of lectures, laboratory practice and field work. In the lectures the more general

questions are discussed with a view to giving the students as broad a knowledge of the subject as is practicable in the time devoted to it. In the laboratory work especial attention is paid to the methods of investigation and to training in accurate observation and recording facts.

The work of this department is open only to Juniors and Seniors in the General Science and Agricultural Courses, unless by special permission, and must be preceded by the courses in General Practical Biology and Invertebrate Zoology in the Sophomore year.

INVERTEBRATE ZOOLOGY.

First Session.....Course I.

For Juniors in Agriculture and Science—First session—two lectures and two laboratory periods of two hours each per week.

This course involves a study of representatives of the principal groups of invertebrate animals together with lectures on their structure and classification.

JUNIOR YEAR.

Second Session.....Course II.

Two lectures and four laboratory hours per week.

General Course:—Lectures, two hours per week, treating of the zoological position of insects, the characteristics of the orders, suborders, and the more important families; the habits of insects with special reference to those species that are of economic importance; and the practical application of entomology, including discussion of insecticides, and of the various methods of controlling the ravages of insects injurious to agriculture. The laboratory and field work, four hours per week, includes the study and more general features of insect anatomy, the determination of general species, the collection and preservation of insects, the preparation and application of insecticides, and the mechanical construction of spraying apparatus.

Prof. Johnson and Mr. Gould.

SENIOR YEAR.

First and Second Session.....Course II.

Hours to be arranged.

Advanced Course:—Open only to students who have completed Course I, or its equivalent. This course consists of special work in morphology, or classification, or working out the life history of insects. Students making entomology their major, will be required to devote

at least ten hours per week, throughout the year, to this course; and prepare an original thesis upon the subject chosen or assigned.

Prof. Johnson and Mr. Gould.

DEPARTMENT OF BOTANY AND PLANT PATHOLOGY.

Prof. C. O. Townsend, G. L. Stewart, Assistant.

SOPHOMORE YEAR.

First Session.....Course I.

Four hours per week. Systematic Botany and Functions of Plant Organs. Mr. Stewart.

Second Session.....Course II.

Six hours per week. Continuation of Systematic Botany. This course must be preceded by Course I. Mr. Stewart.

BOOKS OF REFERENCE, BOTANICAL DEPARTMENT.

SOPHOMORE CLASS.

Gray's Lessons and Manual; Button and Brown, Flora of Northern U. S.; Bergen, Elements of Botany; Spalding, Introduction of Botany; Bastin, College Botany; Bessey, Botany for High Schools and Colleges; Strasburger's Manual of Vegetable Histology; Arthur, Baines and Coulter, Plant Dissection.

JUNIOR YEAR.

First Session.....Course III.

Two lectures and a minimum four laboratory hours per week.

Morphology and Life Histories of Cryptogams, with special attention to fungi. This course necessarily embraces advanced work in microscopical technique, including imbedding, sectioning, staining and the preparation of permanent mounts and must be preceded by Course II and a course in Practical Elementary Biology.

Prof. Townsend and Mr. Stewart.

Second Session.....Course IV.

Two lectures and a minimum of four hours of laboratory work per week. Morphology and Life Histories of Phanerogams, with spec-

ial attention to plants of economic importance. The work in microscopical technique will be continued during this session. This course must be preceded by Course III.

First and Second Session.....Course II.

Prof. Townsend and Mr. Stewart.

SENIOR YEAR.

First Session.....Course V.

Two lectures and a minimum of six hours of laboratory work per week. Plant Physiology. This course must be preceded by Course IV, and may be elected as a minor.

Prof. Townsend and Mr. Stewart.

Second Session.....Course VI.

Two lectures and a minimum of six hours of laboratory work per week. Plant Pathology. This course embraces a study of parasitic fungi and their relations to the higher plants in producing disease. It also includes methods in the preparation and application of fungicides. Course VI must be preceded by Course V, and must be elected as a minor, following Course V.

Prof. Townsend and Mr. Stewart.

Students electing Botany as a major subject must have had Courses I to IV, inclusive, or their equivalent, and must prepare a thesis along the line of the major work. An outline of the work and the hours will be arranged upon consultation with Prof. Townsend.

ADVANCED WORK.

Courses in advanced work in Botany and Plant Pathology will be open to all students who have completed the six undergraduate courses or their equivalent. This work is designed for students who wish to specialize in Botany or in Plant Pathology, and will consist largely of original investigation. Students applying for advanced work along these lines will be expected to spend practically all of their time in this department. The subject to be investigated and an outline of the work will be arranged upon consultation with Prof. Townsend.

BOOKS OF REFERENCE.

JUNIOR CLASS.

Goebel, Outline of Classification and Special Morphology; Vines, Student Text Book of Botany; Coulter's Plant Life; Underwood,

Moulds, Mildews and Mushrooms; Macbride, Slime Moulds of North America; Bennett and Murray, Cryptogamic Botany.

BOOKS OF REFERENCE.

SENIOR CLASS.

Sach's The Physiology of Plants; Vines, Physiology of Plants; Mor Dangel, Plant Physiology; Sorauer, Treatise on the Physiology of Plants; Tubuef and Smith, Diseases of Plants.

DEPARTMENT OF LANGUAGES.

Prof. Thos. H. Spence.

The Department of Languages embraces the study of three branches; Latin, French and German. All students are required to take the courses in German and French, only students of the Classical Course take Latin.

The course of study in Latin is given with two ends in view--first, to train the growing mind into accurate and close methods of reasoning; second, to give the student more thorough and comprehensive knowledge of his own language than he could otherwise acquire. Especial attention is paid to Latin syntax and idioms. The translation work of the course consists of Sallust, Virgil, Cicero, Horace, Livy, Tacitus and Juvenal, besides other authors selected for sight reading.

On account of the large percentage of Germans in our population, a speaking knowledge of this language is very important, and especial attention is given to conversation throughout the course. After the elements of the language have been mastered, and a certain facility of translation acquired, the class is divided, and the students pursuing the Classical Course continue to translate from the works of classic German authors, while the students of the Scientific Courses are given scientific German for translation.

In French, also, after the elementary work and grammar have been completed, the students of the Classical Course and those of the Scientific Courses are separated, the first selecting translations from French literature, the scientific students work of a scientific nature.

FRESHMAN YEAR.

First Session.....Course I.

Six hours per week. Grammar and composition, five hours; syntax, one hour.

Second Session.....Course II.

Continuation of Course I. Text-books, "Bingham's New Latin Grammar;" "Gildersleeve's New Latin Primer;" "Collor's Gate to Caesar," or "Rolfe's Viri Romae."

SOPHOMORE YEAR.

First Session.....Course III.

Six hours per week. Sallust's "Jugurtha," Latin prose composition.

Second Session.....Course IV.

Text Books:—Chase & Stuart's "Sallust's Jugurthine War," or Harper & Tolman's "Caesar's Gallic War;" Chase & Stuart's "Virgil;" Gildersleeve's "New Latin Primer."

Text Books:—First half year. Otis' "Elementary German."

JUNIOR YEAR.

First Session.....Course V.

Ten hours per week. Cicero's orations. Latin prose composition. German.

Second Session.....Course VI.

Text Books, Ten hours per week:—Allen & Greenough's "Latin Grammar;" Allen & Greenough's "Cicero;" Chase & Stuart's "Horace;" Selected Odes; Allen & Greenough's "Ovid;" Selections.

German Text Books, Second Year:—Hauff "Das Kalte Herz;" Schiller's "Der Neffe als Onkel;" Hillern "Hoher als die Kirche:" Walther's "Allgemeine Meeres Kunde;" Sybel "Die Erheburg Europas;" Selected Readings in History and Fiction.

SENIOR YEAR.

First Session.....Course VII.

Text Books, Eleven hours per week:—Chase & Stuart's "Livy:" Chase & Stuart's "Tacitus;" Hart-MacCleave's "Juvinal;" West's "Terence."

Second Session.....Course VIII.

French Text Books, Eleven hours per week:—Whitney's "French Grammar;" Super's "French Reader;" Herdler's "Scientific French Reader;" Rougement "La France;" Fenelon "Telemaque;" Dumas' "Les Trois Mousquetaires."

PREPARATORY DEPARTMENT.

Prof. H. T. Harrison.

First Session.....Course I.

Arithmetic.—Five hours per week. Wentworth's G. S. Arithmetic as far as Interest.

Algebra.—Five hours per week. Wentworth's Algebra as far as Fractions.

History.—Five hours per week. U. S. History from 1775 to the present time.

Geography.—Five hours per week. Descriptive Geography completed.

English.—Seven hours per week. Spelling, Composition, Elementary, Technical Grammar, Parsing and Analysis.

Second Session.....Course II.

Arithmetic.—Five hours per week. Wentworth's G. S. Arithmetic, completed.

Algebra.—Five hours per week. Wentworth's Algebra as far as Quadratics.

History.—Three hours per week. Colonial History and review of whole of Barnes' Brief History of U. S.

English.—Five hours per week. Spelling, Composition, Letter-writing, Technical Grammar.

Geography.—Four hours per week. Maury's Physical Geography, completed.

Bookkeeping.—Four hours per week. Single entry. Business.

MILITARY DEPARTMENT.

The Military Department is a distinctive feature of the college. By special Acts of Congress, provision is made for the maintenance of a Department of Military Science in each of the land-grant colleges. An officer of the United States Army is detailed to act as instructor and as Commandant of cadets.

The Military Department of this college is in a most flourishing condition. All students upon entering, unless physically incapacitated,

are enrolled in one of the three companies of the cadet battalion. Students are required to wear the prescribed uniform at all times when on duty. The discipline in barracks is entrusted to cadet officers, under the supervision of the Commandant, and the discipline of the college is generally military in its nature. Promotion in this department is made according to merit and record in military matters.

The practical instruction of the cadets consists of daily infantry drill, outpost duty and artillery drill. The study of tactics and lectures on military science constitute the class-room work of the department.

The Military Department is a decided factor in the moral and physical development of the student body. By encouraging habits of promptness, obedience and neatness, and by its beneficial effects upon the carriage and general health of the students, it adds materially to the usefulness of the college as an educational institution in the true sense of the word.

DEPARTMENT OF PHYSICAL CULTURE.

The physical culture of the students is provided for by a regular course of instruction in the gymnasium, under the direction of a competent instructor. The course is carefully planned, so as to develop gradually and scientifically the physical powers of each student. Beginning with the simplest calisthenic exercises, the instruction covers the whole field of light and heavy gymnastics and field and track athletics.

The equipment and arrangement of the gymasium is very complete, and the interest manifested by the students is a sufficient proof of the success of this department. While desiring to make the work in the gymnasium of practical value to all the students, the required work only extends through the Preparatory, Freshman and Sophomore years.

A valuable adjunct to this department has been the College Athletic Association, of which mention is made under the head of "Student Organizations."

THE COLLEGE LIBRARY.

The college library may properly be regarded as one of the departments of the institution, as its aid for purposes of reference and its influence upon the mental development of the students must always be felt throughout all courses. The present quarters of the library, while adequate for its immediate needs, will necessarily be too limited in the course of time. The reading room is well arranged and lighted, and is in all respects comfortable and convenient.

While the library is not large, the collection of works has been carefully chosen, and the shelves contain a fair supply of works of reference, history, biography, essays, poetry and the standard works of fic-

tion. Several hundred volumes of bound government reports form an important addition to the reference works of the library. Almost all the leading magazines and a large number of newspapers are subscribed for.

COURSES OF STUDY.

In order to systematize the work of the numerous departments of the college, and as far as possible arrange for specialization within the limits consistent with the normal development of individual students, four distinct courses of study have been prescribed, one of which the student is expected to choose upon entering the collegiate department. These courses are the Agricultural, Mechanical Engineering, Scientific and Classical. In three of these, the Agricultural, Mechanical Engineering and Classical, a continuous and progressive course of work, beginning in the Freshman year, and gradually narrowing in the three succeeding years until the classwork is almost wholly specialized, has been found to be most satisfactory. A broad and liberal foundation is first laid in the Freshman and Sophomore years, and then the particular study desired—agricultural, mechanics or the classical branches—is emphasized more and more until the end of the course.

In the Agricultural Course the main study is scientfic agriculture in all its various branches. The detailed statement of the arrangement of the course is given on another page. The object of the course is to acquaint young men who propose to engage in farming with the results of recent investigation and research, in order to enable them to engage in practical, general farming, dairying or stock-raising, in accordance with the best known methods of modern times. The course leads to the Degree of Bachelor of Science.

The Short Winter Course in Agriculture is especially designed for those who have neither time nor the opportunity to take the regular four years' course. In fact, it is really designed for those actually engaged in farming, and who can spare six or eight weeks during the winter to attend lectures and to follow the practical work of the college and station. The course embraces the following subjects: Farm crops, drainage, stock-breeding, stock-feeding, manures, tobacco, dairy husbandry and chemistry, horticulture, entomology, farm accounts, farm buildings, carpentry and blacksmithing, veterinary science, the principles of citizenship and the elements of business law. The nominal charge of five dollars ($5.00) is made for the course. The entire expense, including board, need not be over fifty dollars ($50.00). The course extends through the months of January and February. All details are in charge of W. T. L. Taliaferro, Professor of Agriculture, and H. J. Patterson, Director of Experiment Station.

The details of the Mechanical Engineering Course will be found on another page. The practical work of this course is most thorough. The student is familiarized from the first with the use of tools and

implements of wood and iron work. He is given daily practice in the shops, and is encouraged to develop whatever inventive talent he may have. It is believed that students completing this course will have no difficulty in securing employment after graduation in the field of mechanics or mechanical engineering. The course leads to the Degree of B. M. E.

The Classical Course was instituted to meet a demand on the part of the patrons of the college for a course of study which should prepare young men to enter the so-called learned professions. The course emphasizes the modern languages, Latin, mythology, English and civics and psychology, with a moderate amount of mathematics and the natural and physical sciences. The Degree of Bachelor of Arts is conferred upon its graduates.

The Scientific Course is designed for those who desire to secure the advantages of a general liberal education, with the opportunity of specializing in some line of modern science—chemistry, biology, pathology, entomology, veterinary science, physics, civil engineering or political science. The basis of the course is a thorough training in mathematics, English and the principles of citizenship and government. Owing to the number of departments represented in this course, it is found necessary to begin differentiation with a view to specialization in the Junior year. In the senior year, as will be seen in the detailed outline of the course on another page, the work is arranged in a series of groups of studies, each group containing one major study and several minors. This is the plan adopted by most of the prominent and successful colleges of the present day, and presents the twofold advantage of concentration of the student's labor and opportunity for ample laboratory work. The degree conferred for all branches of this course is Bachelor of Science.

OUTLINE OF COURSES.

SENIOR CLASS.

The work for the Senior Year in Agriculture and General Science shall consist of a major subject and two or more minor subjects. This work will be elective upon consultation with the professor in charge of the major subject.

The student will be required to elect an amount of work, the minimum of which shall be an equivalent of twenty (20) hours recitative work, one half of which will be devoted to the major subject.

Two hours of practical work is regarded as equivalent to one of recitative work.

The work of the Senior year in the Mechanical Engineering Course is as follows:

SENIOR COURSE—MECHANICAL ENGINEERING DEPARTMENT.

First Term.		Second Term.	
French	5	French	3
Calculus	4	Strength of Materials	3
Machine Design	2-(2)	Machine Design	2-(4)
Graphic Statistics	3	Testing	(4)
Machine Construction	(8)	Machine Construction	(10)
Economics	3	Economics	3
Recitation equiv.	21	Recitation equiv.	20
Total hours	28	Total hours	28

JUNIOR CLASS.

First Term.	Physicl.	Chemical	Biological.	Mechanical.	Agricultural.	Second Term.	Physical.	Chemical.	Biological.	Mechanical.	Agricultural.
Physics	4-(4)	4-(4)	4-(4)	4-(4)	....	Physics	4-(6)	4-(4)	4-(4)	4-(4)	....
Anal. Geom'y	5	.....	....	5	....	Diff. Calculus	4	.....	....	4	....
German	3	3	3	3	3	German	3	3	3	....	3
Chemistry & Mineralogy	4-(4)	4 (10)	....	....	....	Chemistry & Mineralogy.	4-(4)	4-(10)	....	....	....
Surveying	2-(3)	.....	....	....	2-(3)	Surveying	2 (3)	.....	....	...	2-(3)
Drawing	(4)	.....	....	-(4)	....	Drawing	(4)	.....	....	-(4)	....
Veterinary Seience	....	.....	2 (4)	....	2 (4)	Gen. Zoology	....	...	2-(4)	....	2-(4)
Inver. Zoology	....	.....	2-(4)	....	2-(4)	Entomology	....	.....	2-(4)	...	2 (4)
Botany	....	.....	2-(4)	..	2-(4)	Botany	....	.....	2-(4)	....	2 (4)
Horticulture.	....	.....	....	....	(3)	Des. Geom'ry	....	.....	....	3	
Agriculture	....	.....	....	...	2-(2)	Agriculture	....	.....	...	....	3-(3)
Eng. (Thesis)	1	1	1	1	1	Eng. (Thesis)	1	1	1	1	1
Mechanics	....	....	....	(6)	...	Theory of Steam Engine	....	.....	....	3	....
Civics	....	2	....	2	....	Mechanics	....	...	....	-(6)	....
Reci'n equiv.	21	21	22	22	24	Reci'n equiv.	21	21	21	21	24
Total hours	25	28	30	29	34	Total hours	26	26	30	28	33

NOTE—Students in Phyics may elect Chemistry 4-(4) throughout the year or Drawing 4 and Surveying 2-(3) throughout the year.

SOPHOMORE CLASS.

First Term.	General Science.	Mechanical.	Agricultural.	Second Term.	General Science.	Mechanical.	Agricultural.
Agriculture.....	.....	.....	3 (4)	Agriculture.....	.....	.....	2 (3)
Mechanics	.....	(4)	(4)	Horticulture	.....	.....	1 (2)
Element'ry Biol'y	6	.....	(4)	Comparative Anatomy and Phys'l'y	3 (2)	.....	2 (2)
Botany.....	(4)	.....	(4)	Botany.....	(4)	.....	(4)
Physics	3	3	3	Chemistry.....	4 (3)	4 (3)	4 (3)
Chemistry.....	4 (3)	4 (3)	4 (3)	Geometry & Trigonometry.....	5	5	5
Geometry.... ..	4	4	4	Drawing.....	.....	(6)	.....
Drawing	.....	(4)	.....	Moulding & Casting.....	.....	(6)	.....
Theoretical Mechanics.....	.....	3	.....	German.....	3	3	3
English (Rhetoric)	4	4	1	English (Logic)....	.....	3	.....
			.....				
Recitation equiv.	21½	23½	24½	Recitation equiv.	20½	22½	24
Total hours....	28	28	34	Total Hours.....	26	28	31

NOTE.—Students in General Science wishing to take the Physical or Chemical course may elect an equivalent for Botany upon approval of the head of the Department of Physics and Chemistry, as the case may be.

FRESHMAN CLASS.

First Term.	General Science.	Mechanical.	Agricultural.	Second Term.	General Science.	Mechanical.	Agricultural.
Agriculture	3 (4)	.....	3 (4)	Horticulture	(4)		(4)
Drawing.....	(4)	(8)	(4)	Drawing.....	(4)	(6)	
Algebra.....	5	(5)	5	Algebra.....	3	3	3
English	5	5	5	English....	5	5	5
Wood work.....		(6)	(4)	Geology.....	3	3	3
Elem. Ap. Mech..		3		Wood-work.....		(6)	
				Geometry.	5	5	5
				Agriculture.....			2 (3)
Recitation equiv..	20	20	22	Recitation equiv.	20	22	21½
Total hours....	24	25	28	Total hours....	24	26	25

OUTLINE OF CLASSICAL COURSE.

FRESHMAN YEAR.		SOPHOMORE YEAR.	
First Term.	Second Term.	First Term.	Second Term.
English.....5	English.....5	Rhetoric.....4	Logic..... 3
History..... 4	History.....4	Latin. 6	Latin.....6
Latin.....6	Latin.....6	Geometry.....4	German.....3
Algebra.....5	Algebra.....3	Physics..... 3	Trigonometry...5
—	Geometry.....5	Chem. 4 3. .... 5½	Chemistry 4 3..5½
Total 20	—	—	—
	Total 23	Total 22½	Total 22½

JUNIOR YEAR.		SENIOR YEAR.	
First Term.	Second Term.	First Te rm.	Second Term.
English Lit.....3	American Lit....3	English.....2	English.....2
Civil Gov..... ..4	Civil Gov.....4	Psychology.....2	Psychology.....2
Latin.....6	Latin.....6	Business Law...1	Business Law...1
German.....4	German.....4	Economics.....3	Economics.....3
Surveying..2-3 3½	Surveying..2-3..3½	Latin.....6	Latin.....6
—	—	French.....5	French.....5
Total 18½	Total 18½	—	—
		Total 19	Total 19

REQUIREMENTS FOR ADMISSION.

For admission to the college department—Freshman class—an entrance examination is required. This examination will be held at the college on September 20th, 21st, 22nd, 1900. The applicant will be expected to pass a satisfactory examination in the following subjects: English grammar, composition and analysis, United States history, arithmetic (complete), algebra (as far as quadratics), political and physical geography. A mark of 70 per cent. is necessary to pass. For entrance to the Preparatory Department the requirements are: English grammar, arithmetic (as far as percentage), United States history and political geography.

Every applicant for admission to the college must bring satisfactory testimonials as to character and previous scholarship, from one or more persons qualified so to speak—his former teacher, pastor or neighbor, acquainted with his general reputation. *This will be absolutely insisted upon. No student need apply for entrance who cannot furnish such credentials.*

Applicants for admission to higher classes than the Freshman must be prepared to take an examination equivalent to that given at the college for promotion to such classes, or must present certificates from county or city schools covering the work of the lower college classes.

PROMOTION.

In order to pass from one class to the next higher class a student is required to pass the yearly examination by a mark of at least 60 per cent in each study, and to have a combined mark in each branch (daily and examination) of at least 70 per cent. A failure in not more than one branch will enable a student to pass to the next class with condition in that study in which he has failed; but in every case the student is required to make good such failure during the next year.

It has been found necessary to make some regulations to provide for cases of using unfair means in examinations. The faculty, therefore, has agreed upon the following rule, which will be rigidly adhered to: "Any student detected in so doing will be required to surrender his papers, and will not under any circumstances be given another examination in that particular study."

SCHOLARSHIPS.

The college offers a number of scholarships—three for Baltimore City and one for each county of the State. These scholarships are awarded to the successful candidate in competitive examinations, conducted by the Superintendent of Public Instruction of Baltimore City and in the counties by the County Examiner. All scholarship students must be prepared for entrance to the Freshman class, and are required to take the regular entrance examination. Each scholarship is good for four years, or for such part thereof as the holder remains at the college. It is then again open for competition. The cost per year for scholarship students will be found under the head of student expenses.

The following is an extract from the requirements of the Board of Trustees, relating to scholarships:

"Persons holding certificates of scholarship must present themselves at the college, or other designated place, at the date which may be named, in the September or January next following the award, and be examined by college authorities for entrance to the Freshman class. Alternates are to be thus examined, as well as principals, and in a case of a failure of the principal to secure or hold the scholarship, the alternate will have the first right to the place, if within a year from date of the certificate of award.

"Persons holding certificates of scholarship, must, in order to secure the same, pass the entrance examination of the college, and (if

"entering in January) such other examination as may be required to "join *the Freshman class*. Every one must declare his intention of "completing the prescribed course of study of the college, in either "Agriculture or Mechanical Engineering, provided he retains his "Scholarship, and must make an advance payment of $15 on the year's "account. And to hold a scholarship, the student must make the sub-"sequent payments and meet such requirements of the college as to "scholarship and deportment, as may be prescribed by the President "and faculty. By passing special examinations, candidates for scholar-"ships may be permitted to enter the Sophomore class."

DISCIPLINE AND REGULATIONS.

The discipline of the college, as has been stated, is generally military in its character. Students are under the control of cadet officers, subject to the direction of the officer in charge, who makes a daily report to the Commandant of cadets. The final authority, however, in all cases, is the President of the college.

All students are expected to conduct themselves as young gentlemen worthy of respect and confidence, and to be truthful under all circumstances. Upon entrance each one is required to give his word that he will comply with all the rules and regulations of the institution. A copy of these rules is then given him, and he is held responsible for all acts in disregard thereof. Cadet officers in receiving the honors which promotion implies, accept with them obligations and duties which they are bound to regard. This is the key-note of student government. Failure in duty means necessarily forfeiture of confidence and trust.

Punishment for trivial breaches of regulations consists of deprivation of privileges, confinement to grounds or rooms, or special military duties; for aggravated offences the punishment may be suspension or expulsion, at the discretion of the Faculty and the President.

Frequent absences from the college are invariably of great disadvantage to the student, in breaking in upon the continuity of his work, and in distracting his mind from the main purpose of his attendance at the institution. Parents are therefore earnestly asked to refrain from granting frequent requests to leave the college.

Three reports are sent to each parent during the year, showing the student's progress in class work and his general standing as to conduct, etc. At the end of the year a detailed report of the year's work is made.

STUDENT ORGANIZATIONS.

Student clubs for social, literary and athletic purposes, are encouraged as means of creating class and college pride and increasing an ***esprit de corps*** among the students. Each has its own organization in

which matters relating to class work are discussed and directed. Officers are elected, and the unity of the class is strictly preserved. This has been found to be a decided aid to discipline, and tends to raise the standard of student honor.

Among the successful student societies are the Mercer Literary Society and the Morrill Literary Society which have accomplished much good during the past year, the M. A. C. Athletic Association, which controls and directs the work of the College Athletic Team, the Rossburg Club, a social organization, the Glee Club, the Mandolin Club, and the Cadet's Annual, an organization of the Senior class, which publishes an annual magazine. The first four numbers of this Annual, "The Reveille" for 1896-'97, 1897-'98, 1898-'99 and 1999-'00, are most creditable publications.

STUDENT EXPENSES.

The expenses of the college year for the several classes of students are as follows:

REGULAR STUDENTS.

Board, heat, light, room and books	$150.00
Laboratory fee	6.00
Physician's fee	4.00
Breakage fee	5.00
Total cost	$165.00

SCHOLARSHIP STUDENTS.

Board, heat, light, room and books	$70.00
Laboratory fee	6.00
Physician's fee	4.00
Breakage fee	5.00
Total cost	$85.00

DAY STUDENTS.

Room, heat and books	$24.00
Laboratory fee	6.00
Breakage fee	5.00
Total cost	$35.00

TIME OF PAYMENT.

For Regular Students.—

$40.00 (and the fees) on entrance: $40.00 on November 15th; $40.00 on February 1st; $30.00 on April 1st.

For Scholarship Students.—

$35.00, (and the fees) on entrance; $35.00 on February 1st.

For Day Students:—

$12.00 (and the fees) on entrance, and $12.00 on February 1st.

Promptness in payment is insisted upon.

EXPLANATION OF FEES.

The laboratory fee is intended to cover the cost of the materials and apparatus consumed by the student in practical laboratory work.

The physician's fee is to provide for the attendance of the regular college physician in all ordinary cases of sickness.

The breakage fee is to cover all losses to the college caused by careless breakage or otherwise by the students. Each loss is divided proportionately among the students, and the unused balance of each fee refunded at the close of the year. In case the loss is known to be caused by any particular student, the whole amount is charged to his account.

Except in cases of extended illness, no money will be refunded for long continued absence or withdrawal from the college.

Students entering late in the session will be charged according to the date of entrance.

ARTICLES NECESSARY TO BE PROVIDED.

All students are required to provide themselves with the following articles, to be brought from home or purchased from the College Park Store on arrival:

1 dozen white collars, uniform.
6 pair white gloves, uniform.
6 pair white cuffs, uniform.
1 pair blankets (for single bed.)
3 pair sheets (for single bed.)
4 pillow cases.
2 blue bed-spreads, uniform.
6 towels.
1 chair, uniform.

The room-mates together purchase the following articles:—
1 set of lamp fixtures, uniform.
1 pitcher and basin, uniform.
2 table-cloths, uniform.
1 broom.
1 looking-glass.
1 slop-jar (porcelain.)

All the articles marked uniform in the foregoing list can best be purchased after the student arrives at the college. The cost of the entire list should not be more than $10.00 for the year.

UNIFORM.

The cadet uniform of substantial grey cloth, which is required to be worn by students at all times, is made by contract with the tailors at a much lower price than it could be furnished to individuals. The student's measure is taken after he arrives at the college, and the fit is guaranteed. The cost of the entire outfit,—coat, trousers and cap, is $16.00. Parties coming through Baltimore can leave measures and orders with the New York Clothing House, 102-104 E. Baltimore Street. Payment must be made for this at time of entrance. This is imperative.

For further particulars as to entrance, examination, expenses, etc., address:

R. W. SILVESTER, President,
Maryland Agricultural College,
College Park, Maryland.

Express Office, College Station, B. & O. R. R. Telegraph Office, Hyattsville, Md., Telephone Station, Hyattsville, Md.

THE ALUMNI ASSOCIATION.

The growth of the Alumni Association during the past year, is a source of great satisfaction to the officers of the College and of the Association. Through the efforts of its officers a banquet was held at the College in April this year. Renewed interest was shown by the existing members of the Association and the occasion was marked by a large increase in the membership, recruited largely from the older graduates of the College.

All indications point to a great advance in the growth of the organization. And now it is felt that the Association may begin to exercise its influence along the lines of its avowed purpose and object. At its regular annual meeting in June, it was decided that the Association would continue its offer of medals for proficiency in three of the departments of College work. By restricting the competition for the medal to be awarded for the best paper on "Agricultural Science" to

those students pursuing original research, it is intended and hoped, by the Association, to stimulate scientific investigation by the students in the various scientific departments of the College. With the improved and more adequate facilities which have been provided, it is thought that the College is well able to promote this class of work to a greater extent than has been possible in the past; and the competition hereby instituted should tend to elevate the standard of scholarship in the College.

It will be a source of gratification to the members of the Association to note the action of the Board of Trustees of the College with reference to the holding of scholarships in the College. One year ago the Association passed a resolution looking to the restriction of the holders of the State Scholarships to the Agricultural and Mechanical courses in the College. This was with the idea of carrying out more completely the ideas of the founders of the College, in establishing a school for instruction in Agriculture and the Mechanic Art. At the last meeting of the Board of Trustees an order was passed putting the restriction in full operation. It is along this and similar lines that the Association has a broad field provided in which to exert its efforts; and as it increases in strength, it may be expected to make its influence felt for the advancement of the interest and welfare of the College.

The officers of the Association for the ensuing year are:—President, F. B. Bomberger, '94; Vice-President, J. Enos Roy, '92; Secretary-Treasurer, J. R. Laughlin, '96, members-at-large of the Executive Committee, F. A. Soper, '67 and A. S. Gill, '97.

Graduates and members of the Association are requested to keep the Secretary-Treasurer informed of any changes in their addresses. Any information concerning the older graduates, which will enable the officers to locate and communicate with them, will facilitate their efforts and will tend to further the success of the Association.

Address of the Secretary-Treasurer:—J. R. Laughlin,
College Park, Md.

LETTER FROM DEPARTMENT OF AGRICULTURE.

The following letter and circular will be of interest to young men entering this institution. It gives an excellent opportunity for them to advance themselves in the line of their special work, at the same time receiving a compensation which will enable them to pay all expenses. This offer, on the part of the Department of Agriculture, is greatly appreciated, and will, no doubt, be availed of by many attending the Land-Grant Colleges—the best instructors and the most complete facilities are the advantages attending the opportunity:

"Department of Agriculture, Washington, D. C.,

"June 27th, 1899.

"Dear Sir:—

"In my annual report to the President for 1898, I announced my intention of affording opportunities for graduates of agricultural colleges to pursue post-graduate studies in connection with work in the scientific division of this Department, as far as practicable. In pursuance of this policy, I have made an arrangement with the Civil Service Commission for the registration of the graduates of colleges receiving the benefits of grants of land or money from the United States, who may desire to enter the service of the Department as "Scientific Aids" on the terms stated in the notice of the Commission herewith enclosed.

"It seems to be entirely appropriate that the National Government should aid the institutions to which it has already so largely given financial support, in the preparation of their graduates for posts of usefulness in this Department, or in the States from which they come, especially as investigators and teachers along scientific lines. I hope, therefore, that the effort which I am now making in this direction will be but a beginning of the opening up of opportunities for graduate study at the National Capital to those of your graduates who are especially fitted to do high grade scientific work. It will, of course, be understood that under present conditions the Department can only admit a very limited number of scientific aids. Our purpose is to choose from the eligible register those persons who furnish the best evidence of having peculiarly good qualifications for aiding in the work of the Department now in progress. In extending this notice will you kindly explain to your graduates the necessity of making a clear and full statement of their attainments and qualifications in special lines of science? Correspondence regarding application blanks and other matters connected with registration should be had promptly with the Civil Service Commission.

"Very respectfully,

"JAMES WILSON,

"Secretary Agriculture."

To R. W. Silvester, President, College Park, Maryland.

SCIENTIFIC AID.

DEPARTMENT OF AGRICULTURE.

AUGUST 1st, 1899.

The United States Civil Service Commission announces that it desires to establish an eligible register for the position of scientific aid, Department of Agriculture.

The examination will consist of the subjects mentioned below, which will be weighted as follows:—

Subjects.	Weights.
1. College Course with Bachelor's Degree	50
2. Post-graduate course and special qualifications	25
3. Thesis or other literature	25
Total	100

It will be noted that applicants will not be required to appear at any place for examination, but will be required to file with the Commission prior to the hour of closing business, on August 1st, 1900, their statements and other material which will be required as specified in a special form which will be furnished them by the Commission, together with application blank (Form 304) in order to have their names entered upon the register which will be made immediately after the date mentioned. Persons who are unable to file their applications prior to August 1st, 1900, may file them at any subsequent time, when they will be rated and the names of those attaining eligible averages will be entered upon the register.

For the information of applicants, the following statement is made, as received from the Secretary of Agriculture:

1. An application will be limited to graduates of colleges receiving the benefits of grants of land or money from the United States.

2. Each applicant must file with the United States Civil Service Commission, Washington, D. C., a properly certified statement as to the length of time spent in College, the studies pursued, the standing in these studies, the special work it is desired to take up and the special qualifications for such work, and finally, a thesis upon such scientific subjects as the applicant may select, or in lieu of this, any literature on scientific subjects over his own signature.

3. The length of time any scientfic aid may serve in the Department is limited to two (2) years.

4. The salary shall not exceed forty dollars ($40.00) per month.

The minimum age limitation for entrance to this examination is twenty (20) years; there is no maximum age limitation.

This examination is open to all citizens of the United States who comply with the requirements. All such citizens are invited to apply. They will be examined, graded and certified, without regard to any consideration, save their ability as shown by them in the examination. Persons desiring to compete should at once apply to the United States Civil Service Commission, Washington, D. C., for application blanks (Form 304) and special forms.

DONATIONS TO LIBRARY.

Grateful acknowledgment is made to the following, for valuable additions to our library:

The late William S. Keech, of Towson, Md., complete set of literature on all matters pertaining to Arctic Explorations.

Johns Hopkins University, Baltimore, Md., additions to Agricultural Library, and Reports of Geological Survey, Weather Service and Highway Commission.

Department of Agriculture, Washington, D. C., additions to Agricultural Library.

Hon. A. P. Gorman, Various publications of a fiscal character.

Hon. Sydney E. Mudd, Maps for Engineering Department.

County Press, valuable additions of their publications.

MEDALS AWARDED.

COMMENCEMENT, 1900.

Senior Class, Trustee's Medal.....H. J. Kefauver.
Gold Medal for Highest Standing for entire Course.

Junior Class, Trustee's Medal.....W. W. Cobey.
Gold Medal for Highest Standing in Junior Class.

Alumni Medal.....E. S. Choate.
Gold Medal for Excellence in Mechanical Engineering.

Alumni Medal.....A. E. Ewens.
Gold Medal for Best Essay on Agricultural Science.

Alumni Medal.....H. J. Kefauver.
Gold Medal for Best Debater in Competitive Debate.

Trustee's Medal.....H. J. Kefauver.
Gold Medal for Best Essay on "American Citizenship."

ATHLETIC MEDALS.

100 Yard Dash .....Matthews.
220 Yard Dash .....Weigand.
440 Yard Dash .....Weigand.
Half Mile Run .....Dickey.
Mile Run .....Dickey.
120 Yard Hurdle .....Mackall.
Class Relay won by .....Senior Class Team.
Putting 16-lb. Shot .....Peters.
High Jump .....J. H. Hopkins.
Broad Jump .....Peters.
Best Tennis Player.....Fendall.

GRADUATES OF 1900 AND DEGREES CONFERRED.

SUBJEST OF THESES.

Edward S. Choate, M. E,.....Randallstown, Md.
"Wood Turning Lathe."

Calvin Grant Church, B. S,.....College Park, Md.
"Comparative Analysis of Oyster Shells and Oyster Shell Lime."

Arthur Edward Ewens, B. S,.....Baltimore, Md.
"The Analysis of Butter and Oleomargarine."

Andrew S. R. Grason, B. S,.....Towson, Md.
"Horse Industry."

William D. Groff, B. S,.....Owings Mills, Md.
"Condimental Foods."

R. Moore Jenifer, B. S,.....Loch Raven, Md.
"Minor Injuries and Their Treatment."

Harry J. Kefauver, A. B,.....Frederick, Md.
"The Effect of Material Progress Upon the Distribution of Wealth."

Samuel M. Peach, A. B,.....Mitchellville, Md.
"Trusts."

Earl Neilson Sappington, B. S,.....Darlington, Md.
"The Urinary System."

Amos C. Sudler, B. S,.....Westover, Md.
"The Stable and Its Management."

William Henry Talbott, A. B,.....Willows, Md.
"Our Public School System."

William Henry Weigand, B. S,.....Leitersburg, Md.
"Comparative Analysis of Coal Gas and Water Gas Lime."

MILITARY DEPARTMENT
ROSTER.

COMMANDANT,

*_____

CADET BATTALION.

STAFF.

Major, W. W. Cobey.

*_____ .....First Lieutenant and Adjutant.
*_____ .....First Lieutenant and Quartermaster.
F. H. Peters,.....Sergeant-Major.
W. S. Hull,.....Chief Trumpeter.

INFANTRY.

COMPANY "A."	COMPANY "B."	COMPANY "C."
CAPTAINS.		
H. C. Whiteford.	A. R. Nininger,	F. B. Hines.
FIRST LIEUTENANTS.		
J. T. Hardesty,	F. V. McDonnell,	*.....
SECOND LIEUTENANTS.		
J. D. Bowman,	T. B. Symons,	*.....
FIRST SERGEANTS.		
S. P. Darby,	R. L. Mitchell,	L. E. Mackall.
SERGEANTS.		
Jos. Coudon,	E. H. Smith,	W. S. Fendall.
R. Hamblin,	W. B. Woolf,	J. I. Wisner.
CORPORALS.		
B. W. Gatch,	L. M. Ewell,	J. H. Hopkins.
E. D. Dickey,	R. Darby,	J. B. Robins.
E. P. Walls,	C. Clagett,	W. C. Ort.

*Will be appointed.

ROSTER OF STUDENTS.

SESSION 1899-1900.

SENIOR CLASS.

Choate, E. S.	Randallstown, Md.
Church, C. G.	College Park, Md.
Ewens, A. E.	Baltimore, Md.
Grason, A. S. R.	Towson, Md.
Groff, W. D.	Owings, Mills, Md.
Jenifer, R. M.	Loch Raven, Md.
Kefauver, H. J.	Frederick, Md.
Peach, S. M.	Mitchellsville, Md.
Sappington, E. N.	Darlington, Md.
Sudler, A. C.	Westover, Md.
Talbott, W. H.	Willows, Md.
Weigand, W. H.	Leitersburg, Md.

Total 12.

JUNIOR CLASS.

Cobey, W. W.	Grayton, Md.
Hardesty, J. T.	Collington, Md.
Nininger, A. R.	Huntsville, Ala.
Peyton, J. I.	Washington, D. C.
Hines, F. B.	Chestertown, Md.
McDonnell, F. V.	Florence, Pa.
Whiteford, H. C.	Whitefords, Md.

Total 7.

SOPHOMORE CLASS.

Bowman, J. D.	Hyattstown, Md.
Bradley, J. A.	Chestertown, Md.
Branham, H. C.	Baltimore, Md.
Coudon, Jos.	Perryville, Md.
Carroll, D. G.	Baltimore, Md.
Darby, R. J.	Buck Lodge, Md.
Darby, S. Porter	Sellman, Md.
Fendall, W. S.	Towson, Md.
Gideon, C. C.	Ballston, Va.
Jenifer, D.	Loch Raven, Md.
Lansdale, H. N.	Damascus, Md.
Mackall, L. E.	Mackall, Md.
Mitchell, R. L.	La Plata, Md.

SOPHOMORE CLASS (Continued.)

Peters, F. H.	Wesley, Md.
Posey, A. A.	Faulkner, Md.
Robertson, M. G.	Washington, D. C.
Symons, T. B.	Easton, Md.
Welsh, G. P.	Washington, D. C.
Woolf, W. B.	Hyattsville, Md.
Wisner, J. I.	Baltimore, Md.

Total 20.

FRESHMAN CLASS.

Byers, J. B.	Ellicott City, Md.
Cairnes, G. W.	Jarrettsville, Md.
Clagett, C.	Potomac, Md.
Clagett, R. D.	Upper Marlboro, Md
Cooke, S.	Hyattsville, Md.
Collier, J. P.	Ellicott City, Md.
Cruikshank, T.	Cecilton, Md.
Curtis, J. D.	Sligo, Md.
Dickey, E. D.	Baltimore, Md.
Elgin, B.	Brunswick, Md.
Ensor, J. G.	Belfast, Md.
Ewell, L. M.	Baltimore, Md.
Fitzhugh, A. C.	Baltimore, Md.
Garner, E. F.	Rosaryville, Md.
Gatch, B. W.	Gardenville, Md.
Hamilton, M. P.	Baltimore, Md.
Hamblin, R.	Wango, Md.
Hopkins, J. H.	Elkridge, Md.
Hopkins, I. C.	Halls, Md.
Hinman, W. G.	Lower Marlboro, Md.
Loker, H.	Leonardtown, Md.
Matthews, J. M.	Dulaneys Valley, Md.
Merryman, T. C.	Monkton, Md.
McCubbin, L. C.	Chevy Chase, Md.
Mayo, R. B.	Hyattsville, Md.
Owens, E. T.	Greenock, Md.
Ort, W. C.	Barton, Md.
Parker, R. A.	Piscataway, Md.
Peach, P. L.	Mitchellsville, Md.
Purman, Stanley	Washington, D. C.
Reading, F. M.	Darnestown, Md.
Robins, J. B.	Snow Hill, Md.
Ray A. A.	Chillum, Md.

FRESHMAN CLASS (Continued.)

Smith, E. H.....Govanstown, Md.
Sozinskey, T. S.....Millington, Md.
Spalding, D. B.....Washington, D. C.
Sadtler, G. T.....Baltimore, Md.
Walls, E. P.....Barclay, Md.
Warren, G. L.....Brooklyn, N. Y.
Young. F. J.....Bristol, Tenn.

Total 40.

PREPARATORY CLASS.

Bryan, T. E.....Centerville, Md.
Broch, Leon .....Cuba.
Brown, D. E.....College Park, Md.
Caldwell, E. A.....Washington, D. C.
Carroll, W. C.....College Park, Md.
Cockey, J. G.....Gwynnbrook, Md.
Coombe, O. P.....Washington, D. C.
Carr, M. .....Hyattsville, Md.
Eversfield, O. C.....College Park, Md.
Ewell, E. R.....Baltimore, Md.
Fenby, W. W.....Avondale, Md.
Gathmann, O. .....Washington, D. C.
Gathmann, P. .....Washington, D. C.
Gourley, T. A.....Burch, Md.
Hull, W. S.....Baltimore, Md.
Hall, A. L.....Allegheny, Pa.
Harr, A. G.....Forest Glen, Md.
Heller, H. C.....Baltimore, Md.
Irby, R. G.....Washington, D. C.
Kehoe, J. G. C.....Washington, D. C.
Lee, J. B.....Hyattsville, Md.
Myers, J. T.....Avenel, Md.
Maught, A. R. B.....Broad Run, Md.
Meikle, R. J.....Baltimore, Md.
Motter, W. R.....Taneytown, Md.
Masvidal, P. .....Cuba.
Nayler, R. B.....Piscataway, Md.
Nichols, S. B.....Germantown, Md.
Purnell, J. R.....Snow Hill, Md.
Payne, T. .....Frostburg, Md.
Rollins, W. W.....Seat Pleasants, Md.
Rollins, P. C.....Seat Pleasants, Md.
Reasin, W. F.....Havre de Grace, Md.
Rolph, W. C.....Beltsville, Md.

PREPARATORY CLASS (Continued.)

Sappington, J. W.....Overton, Md.
Shepherd, E. L.....Bristol, Md.
Smith, D. R.....Frederick, Md.
Sincell, G. L.....Oakland, Md.
Underwood, E. J.....Accokeek, Md.
Watts, H. D.....Bel Air, Md.
Winterson, C. R.....Elkridge, Md.

Total 41.

SPECIALS.

Darby, S. P.....Sellman, Md.
Brown, D. E.....College Park, Md.
Flickinger, M. F.....Copperville, Md.
Reaver, E. C.....Trevanion, Md.
Hiner, E. O.....Westminster, Md.

Total in all Classes 125.

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SOPHOMORE CHEMICAL LABORATORY—CLASS AT WORK.

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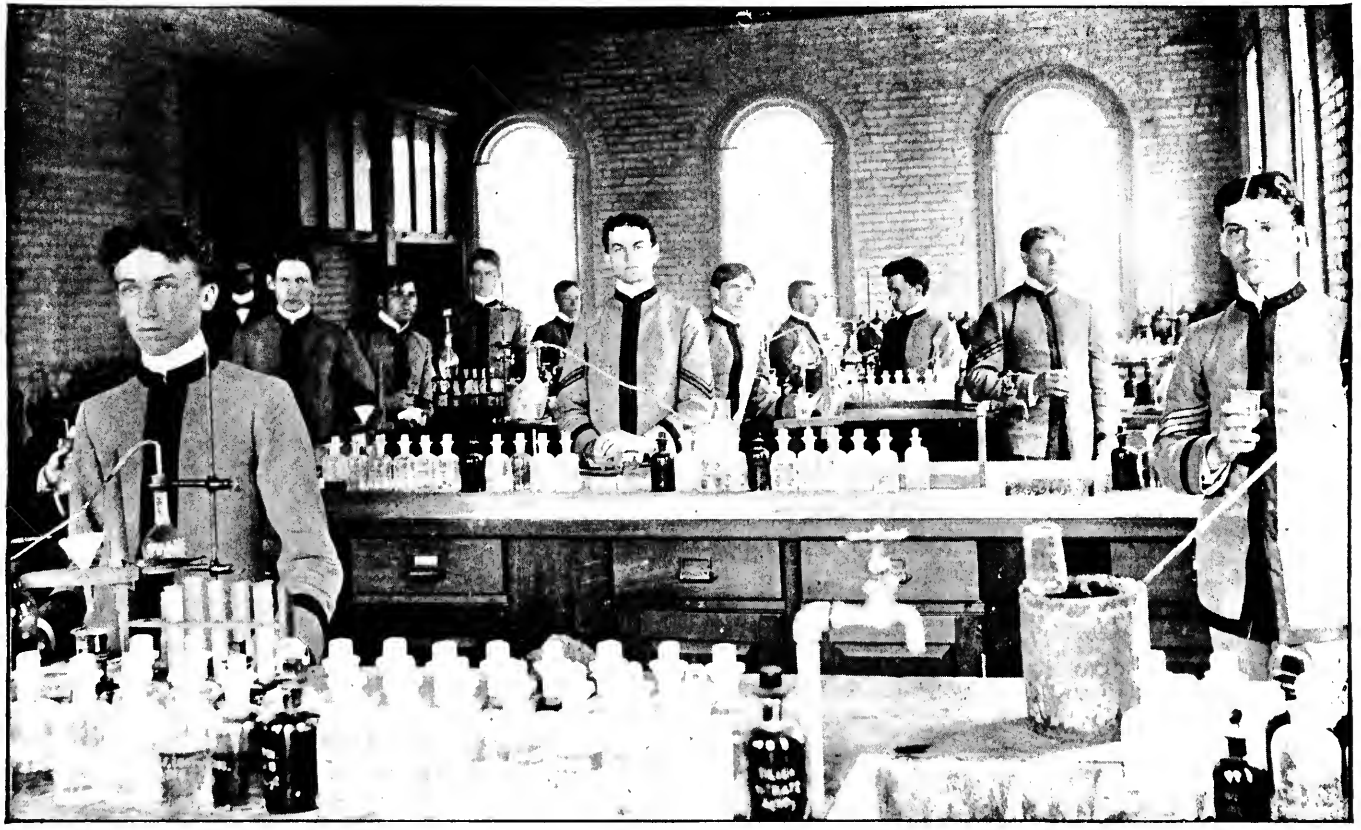
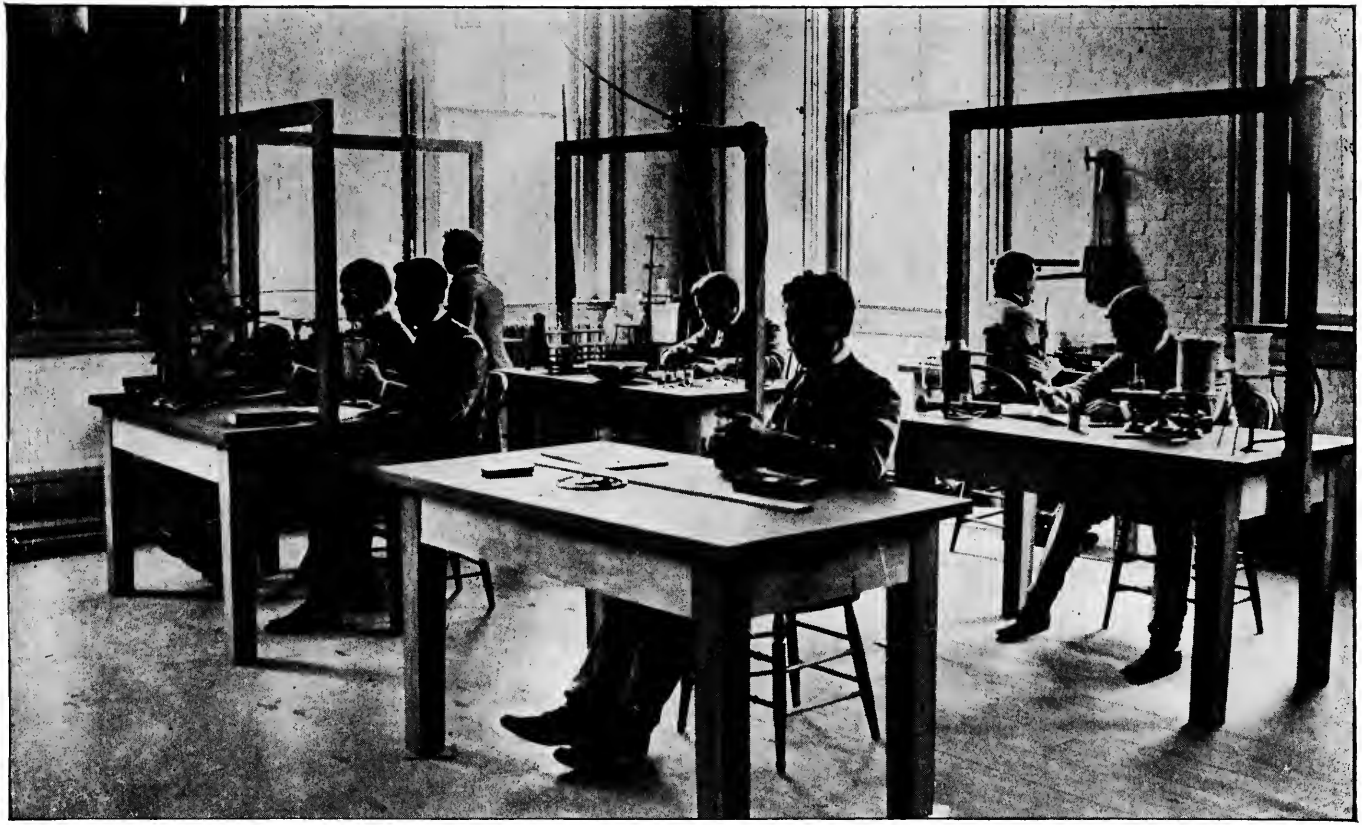
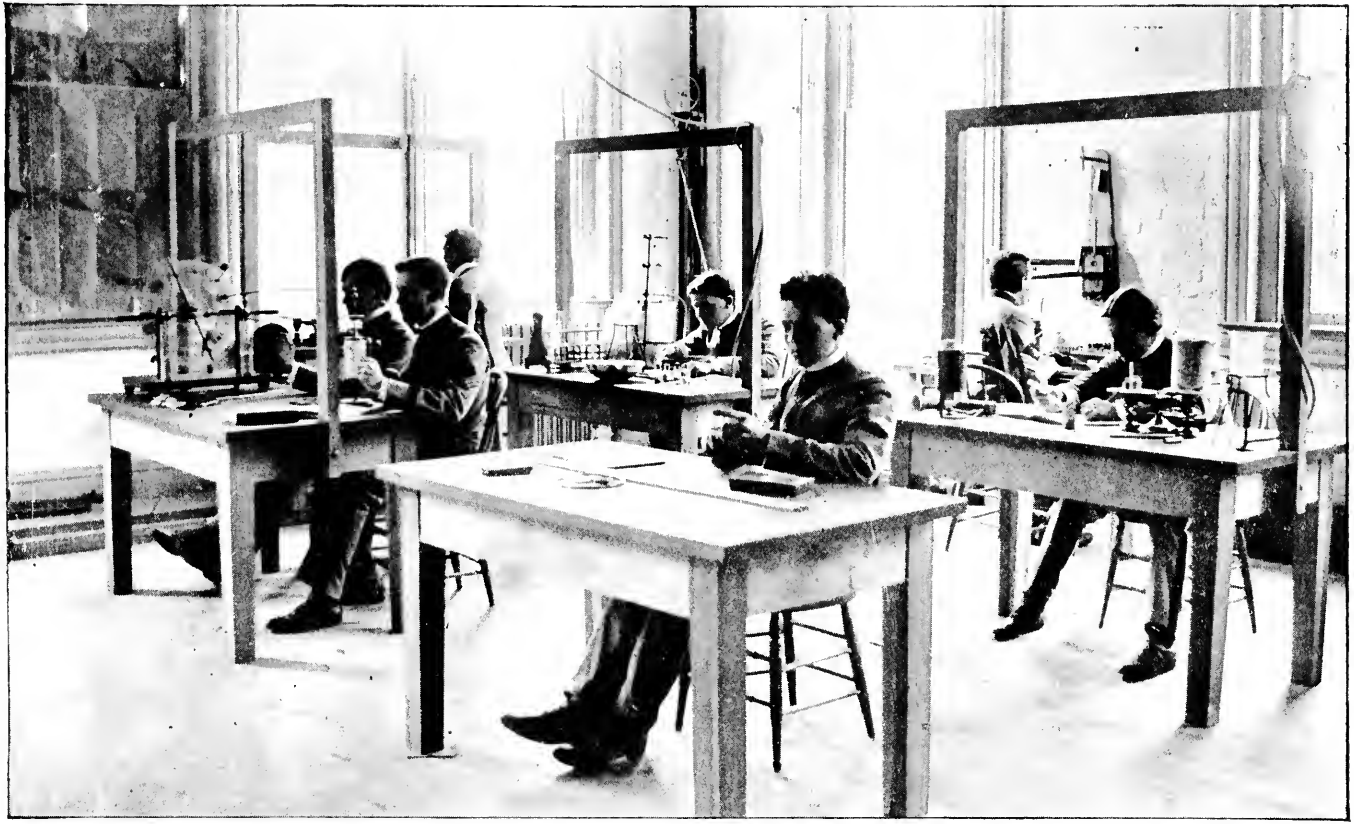


SOPHOMORE CHEMICAL LABORATORY—CLASS AT WORK.



PHYSICAL LABORATORY—STUDENTS AT WORK.

ENTOMOLOGICAL LABORATORY—STUDENTS AT WORK.



PHYSICAL LABORATORY—STUDENTS AT WORK.

ENTOMOLOGICAL LABORATORY—STUDENTS AT WORK.

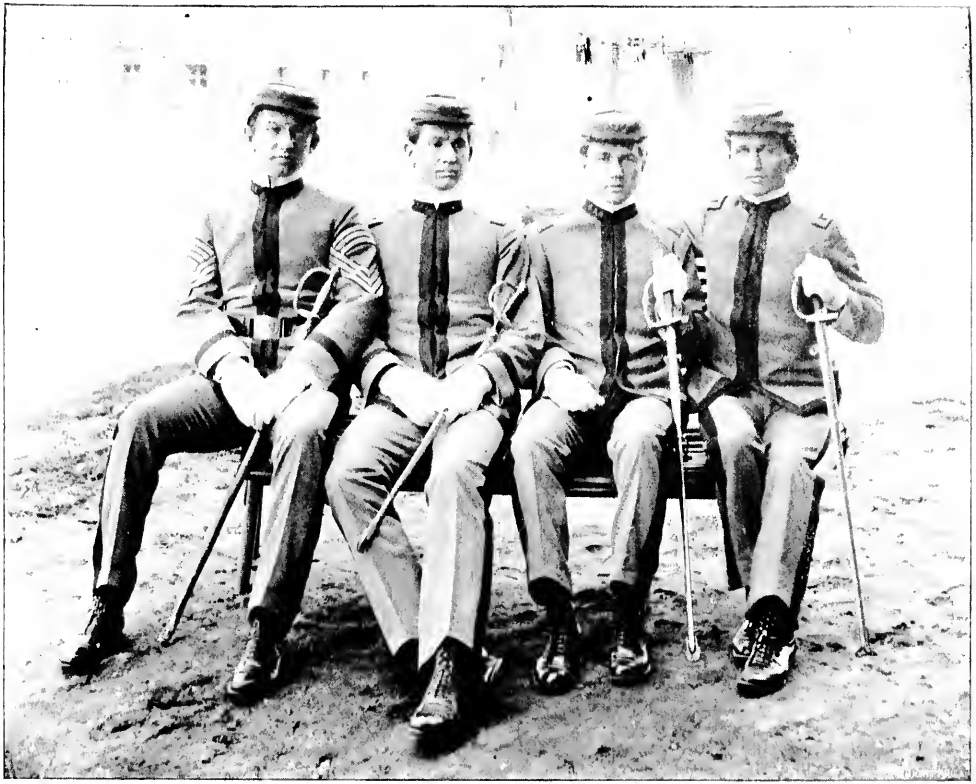
BOTANICAL LABORATORY—STUDENTS AT WORK.

Major A. S. R. Grason,

1st. Lieutenant and Adjutant S. M. Peach. 1st Lieutenant and Quartermaster W. H. Weigand.

Sergeant Major F. B. Hines.

BOTANICAL LABORATORY.--STUDENTS AT WORK.



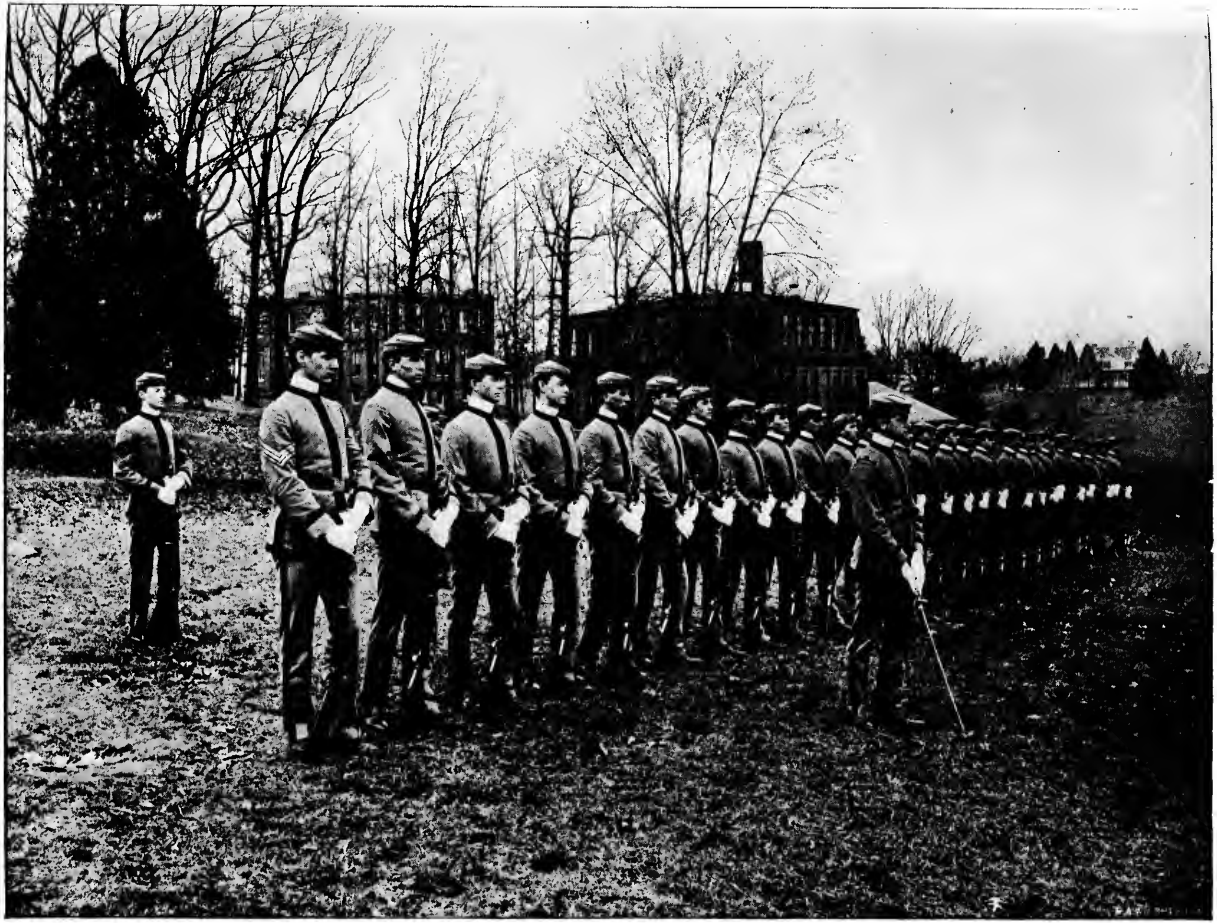
Major A. S. R. Grason.

1st. Lieutenant and Adjutant S. M. Peach.

1st Lieutenant and Quartermaster W. H. Weigand.

Sergeant Major F. B. Hines.

THE BATTALION.



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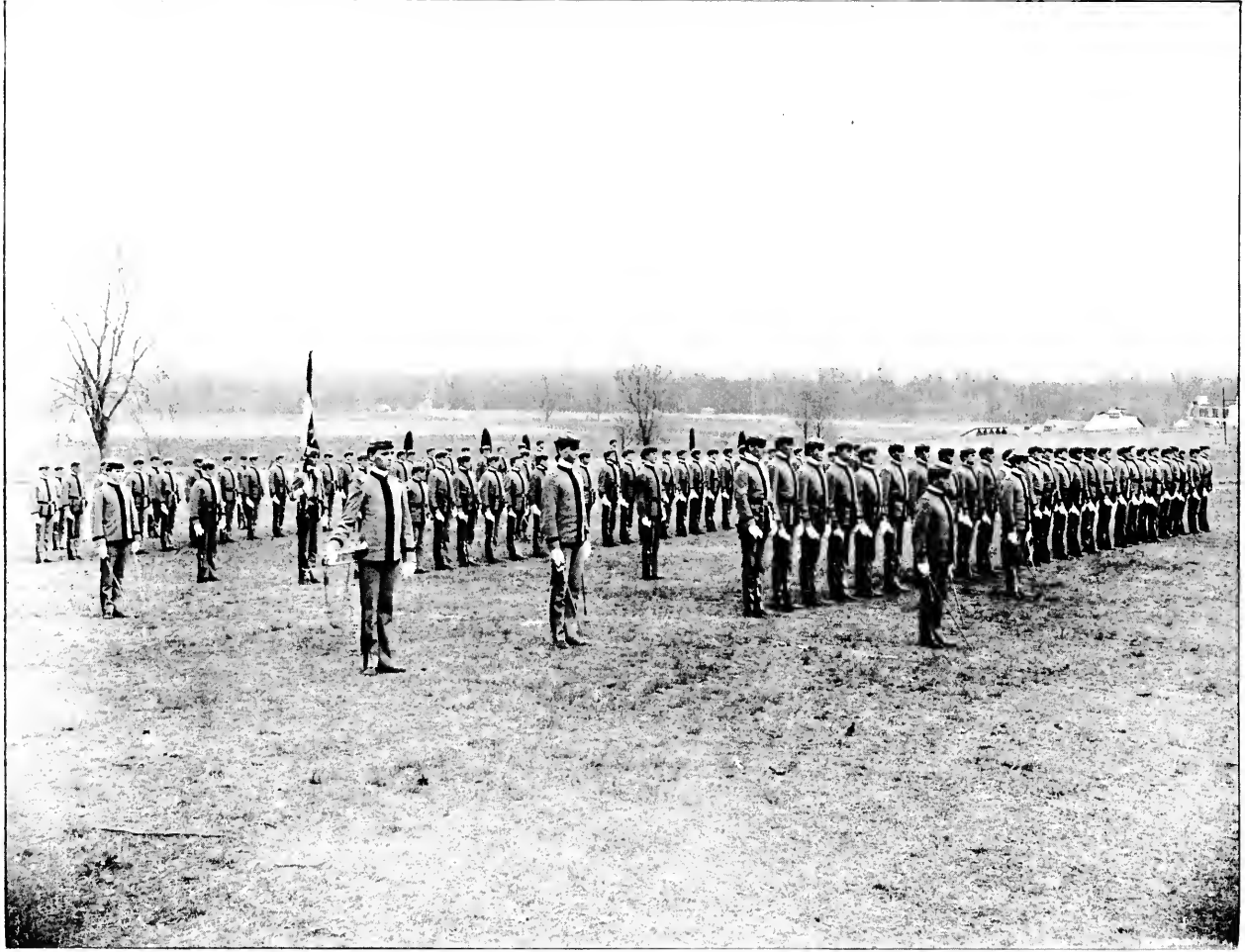

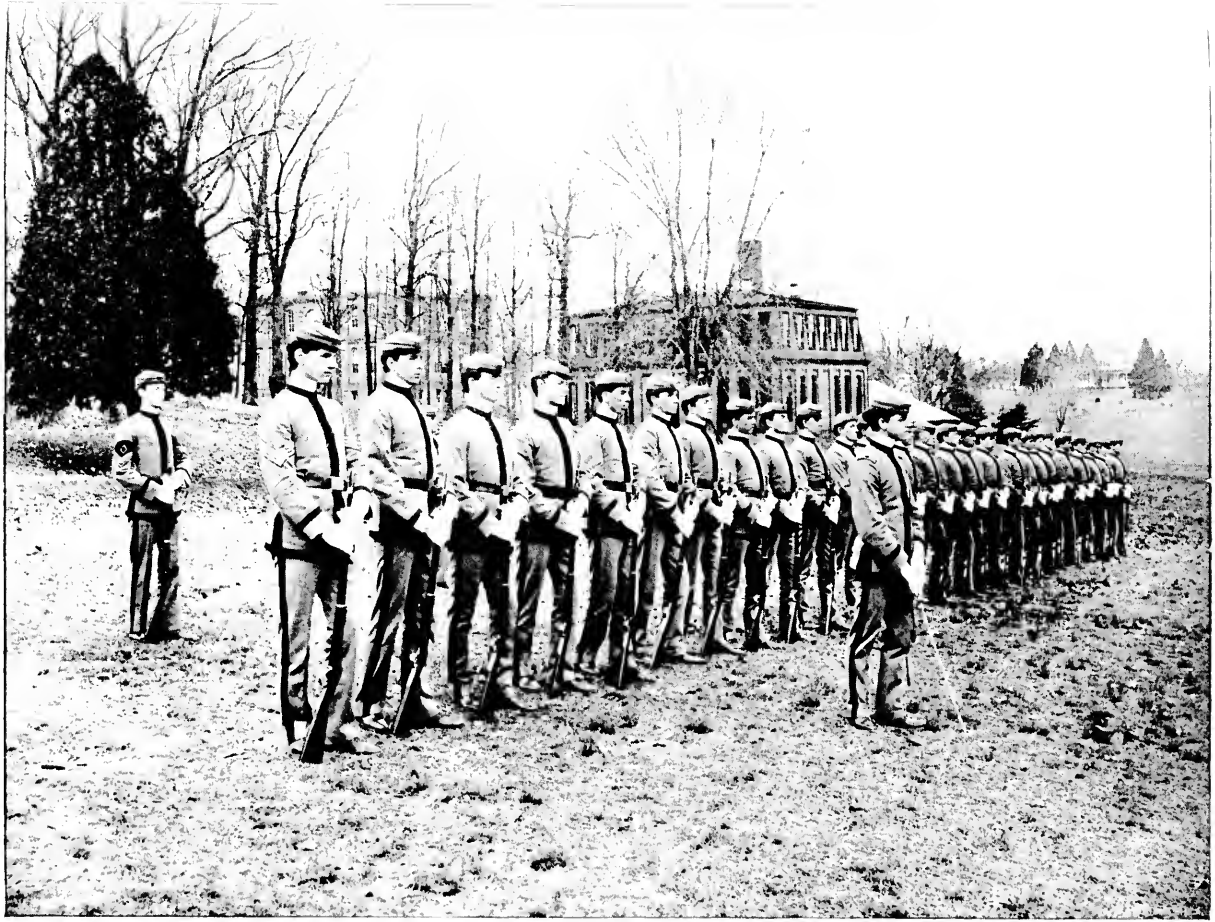

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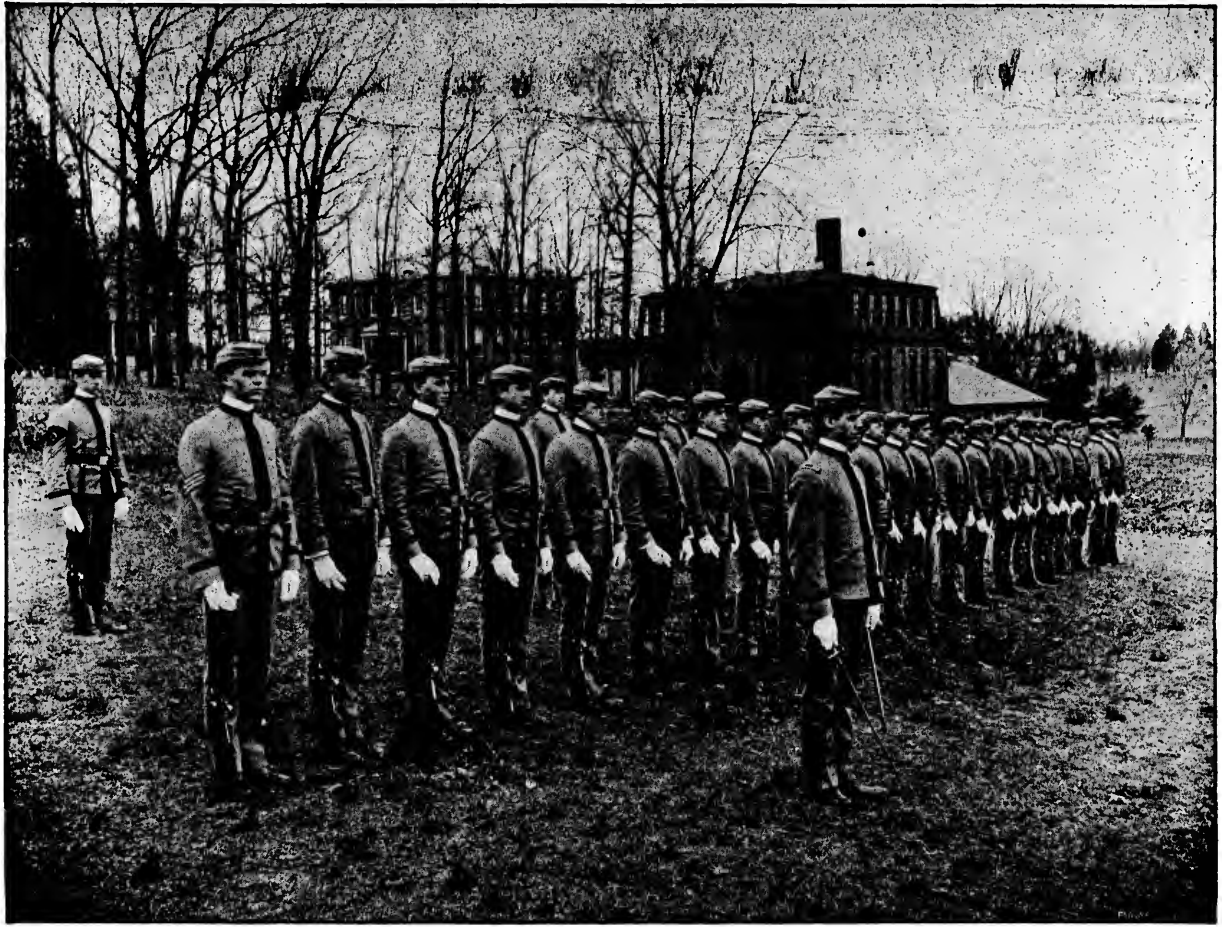

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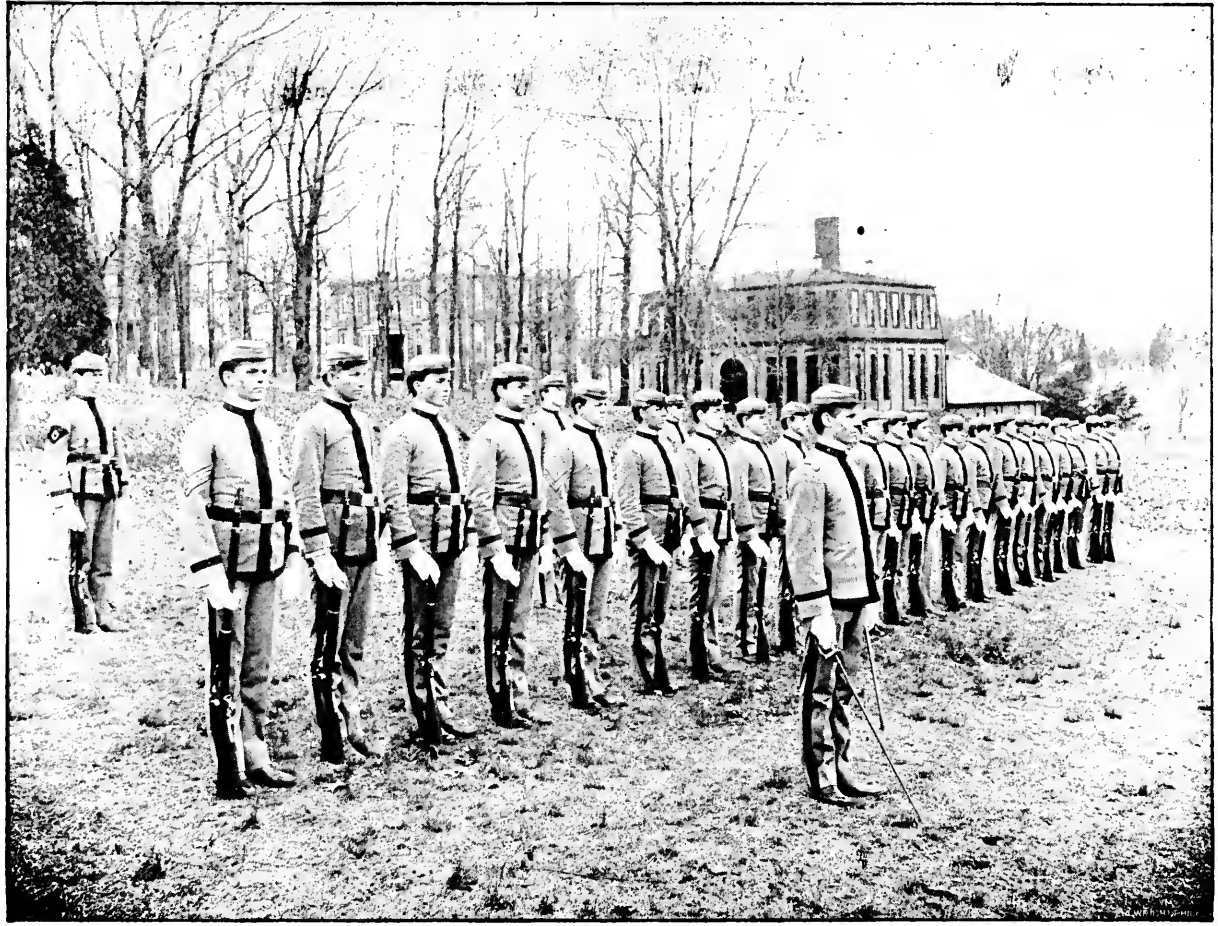

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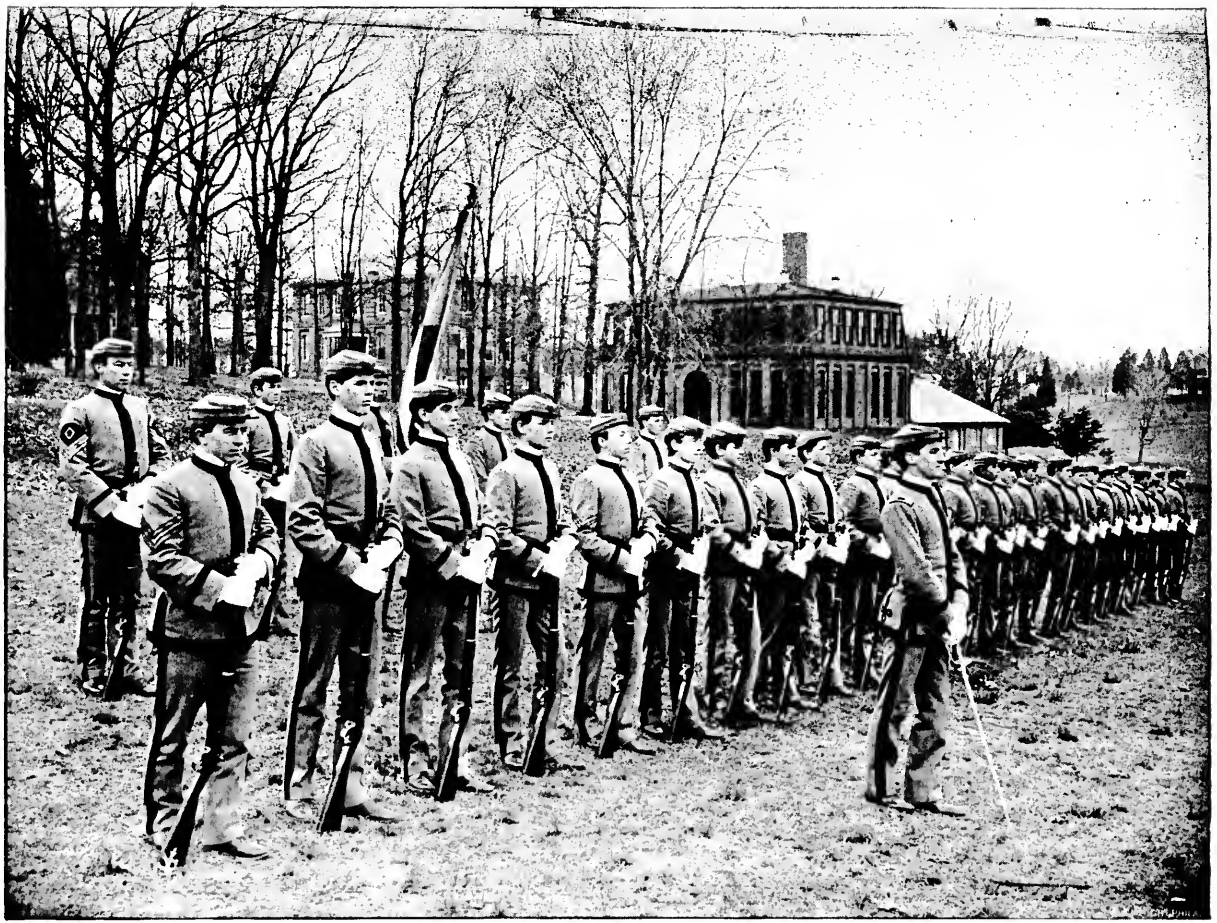
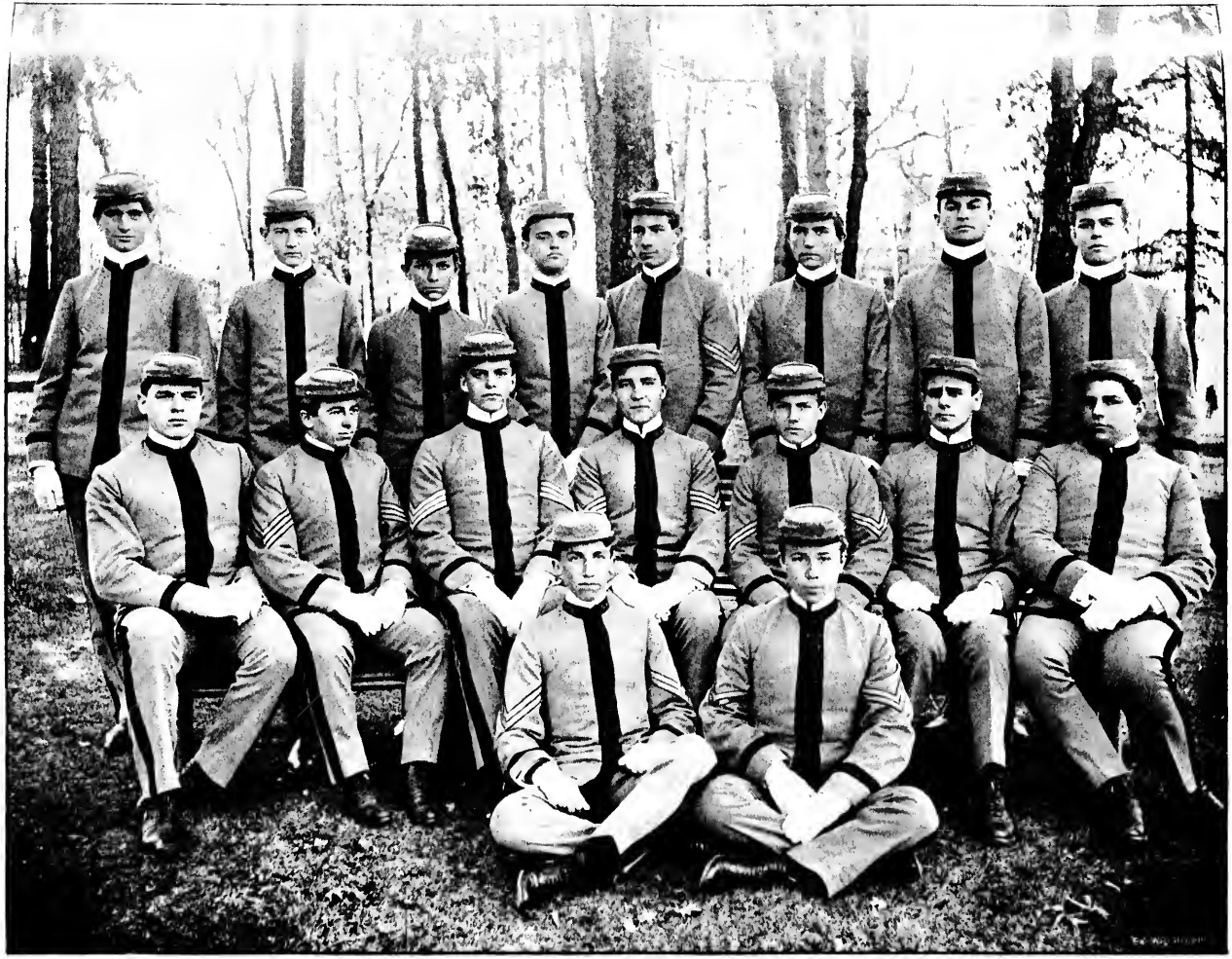


COMPANY "C."

CLASS OF 1901.

CLASS OF 1902.

CLASS OF 1901.



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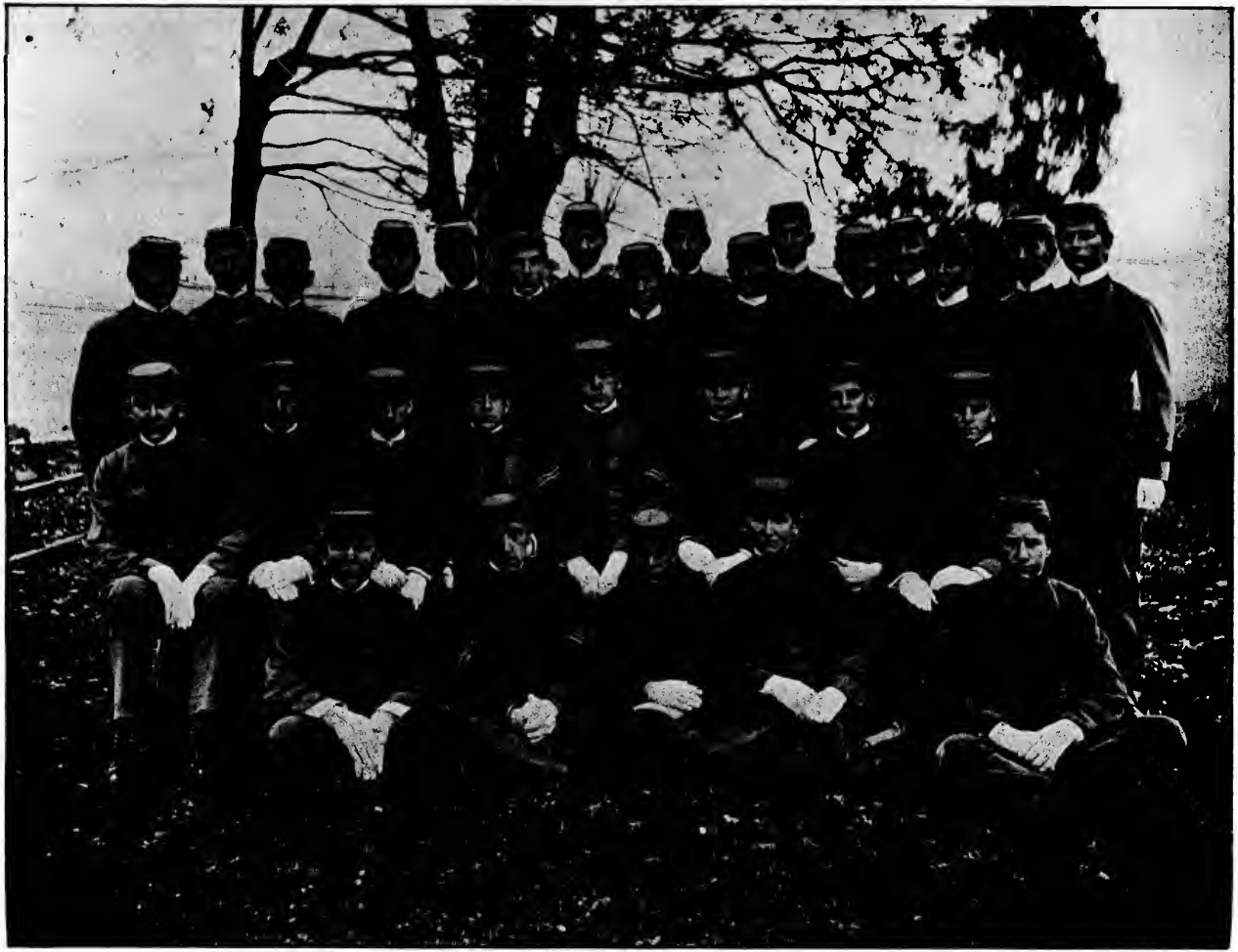

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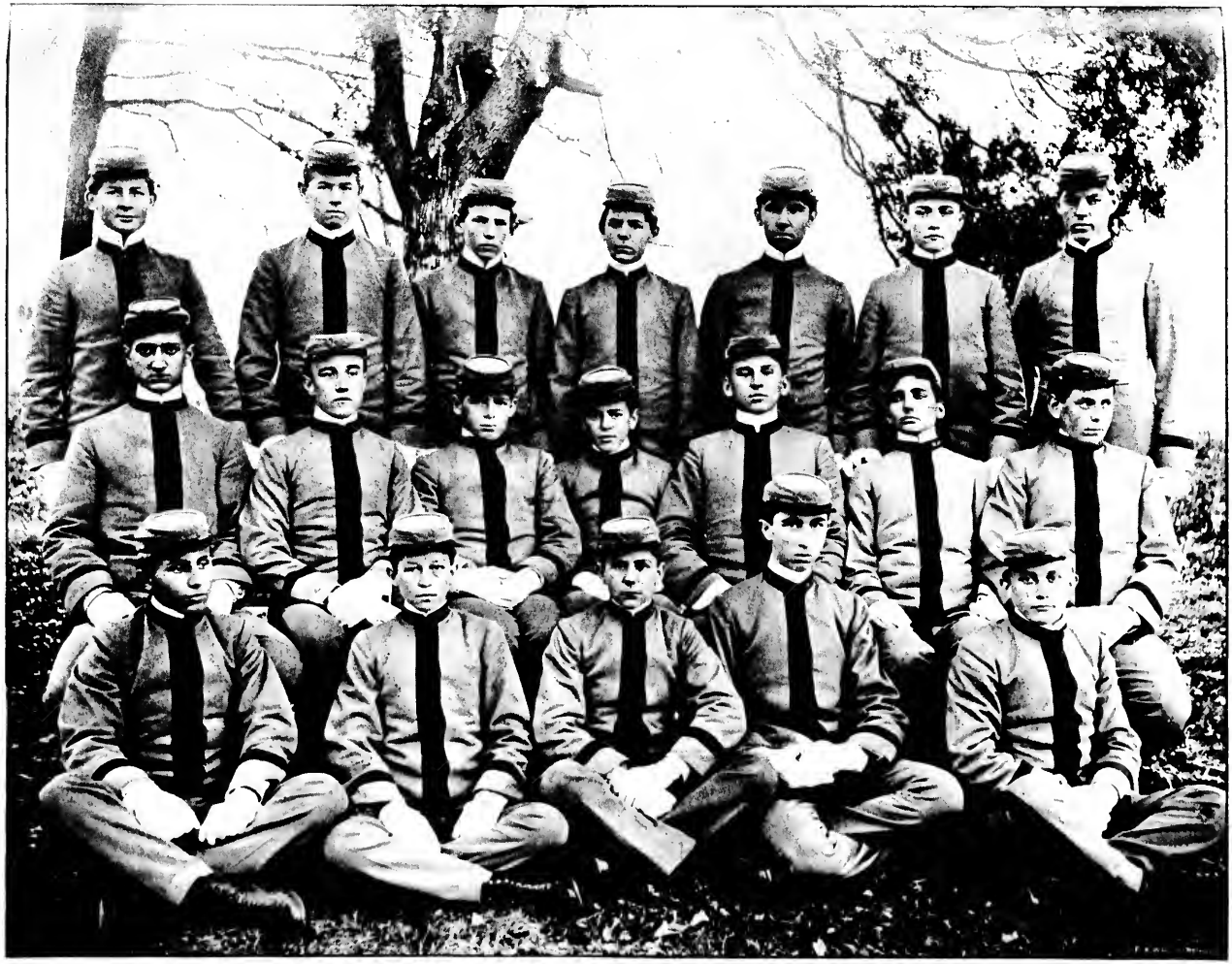
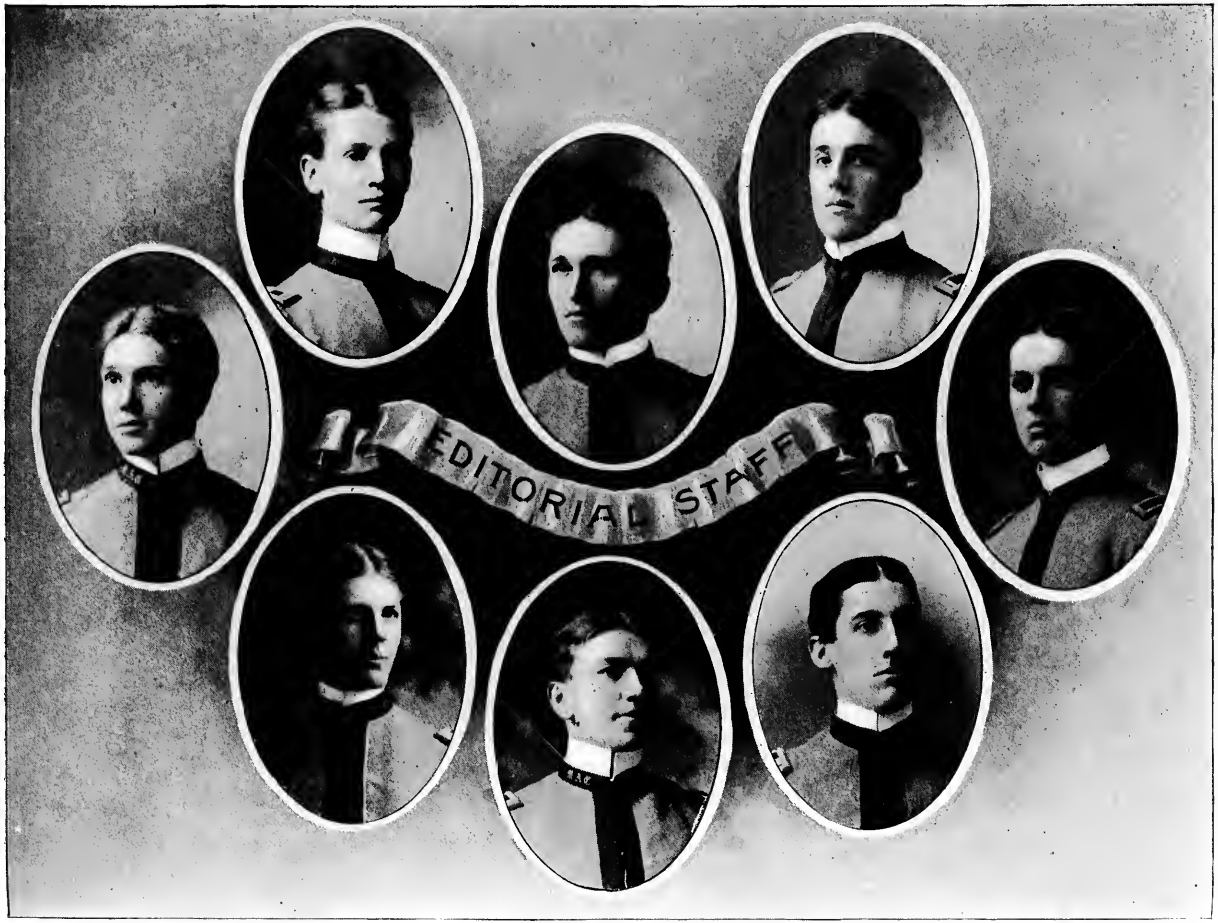
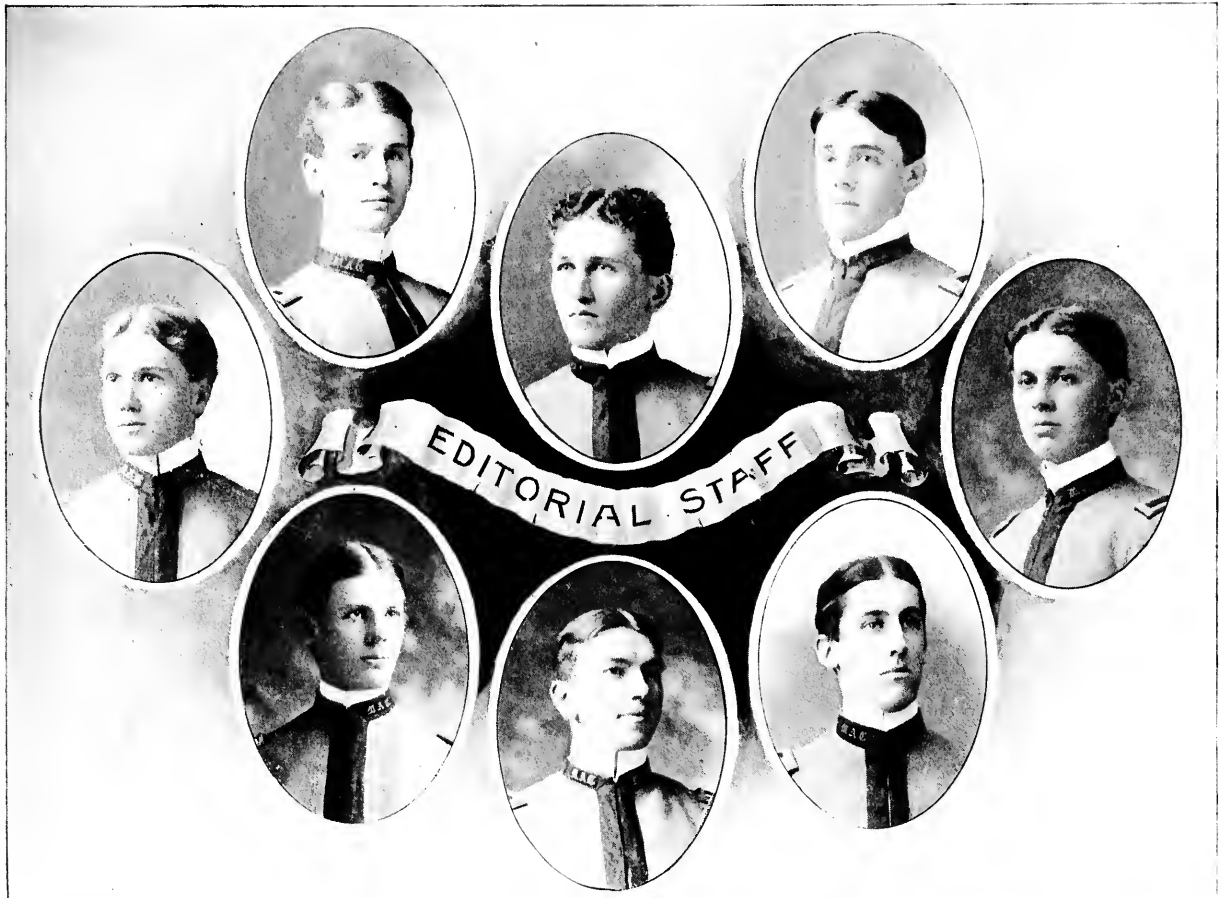
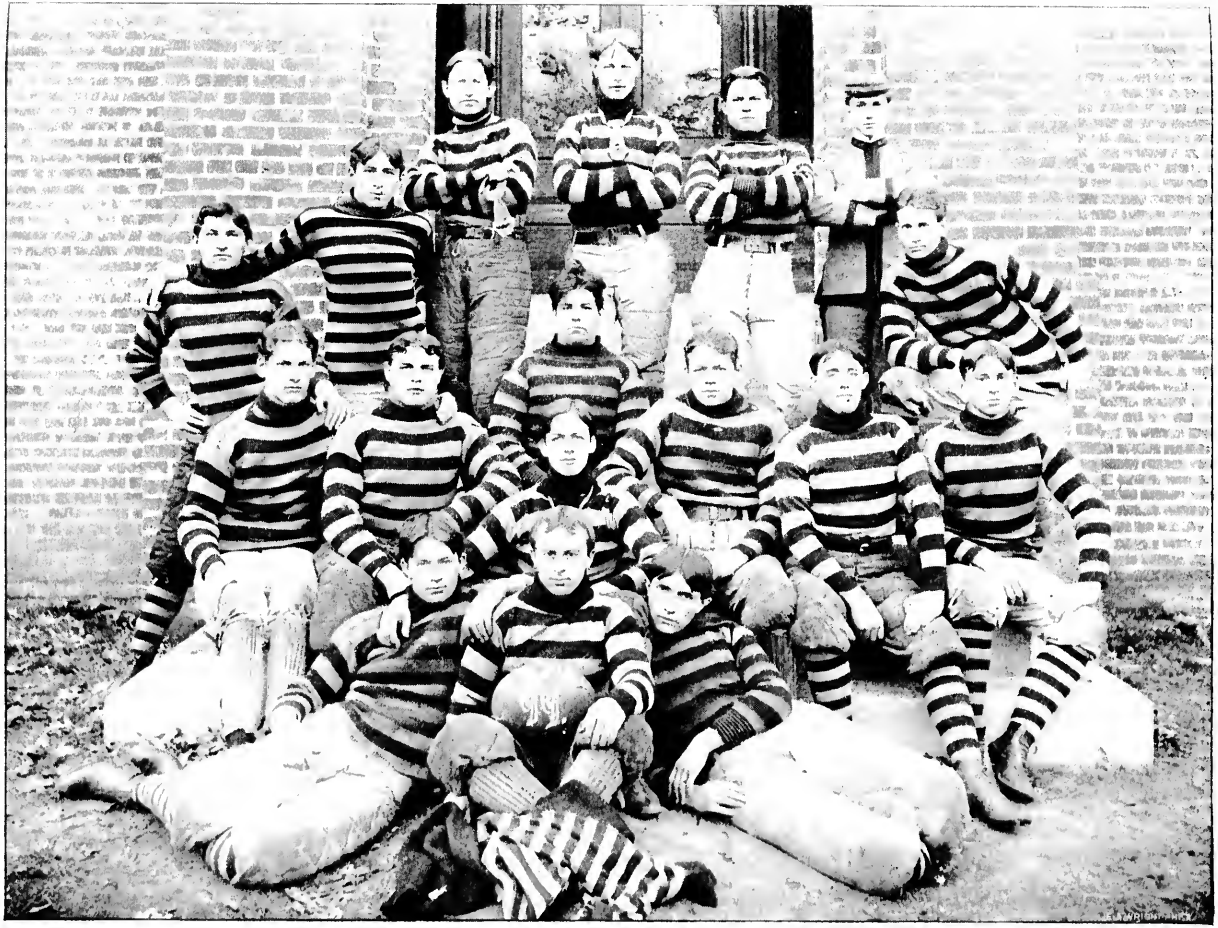
CLASS OF 1903.



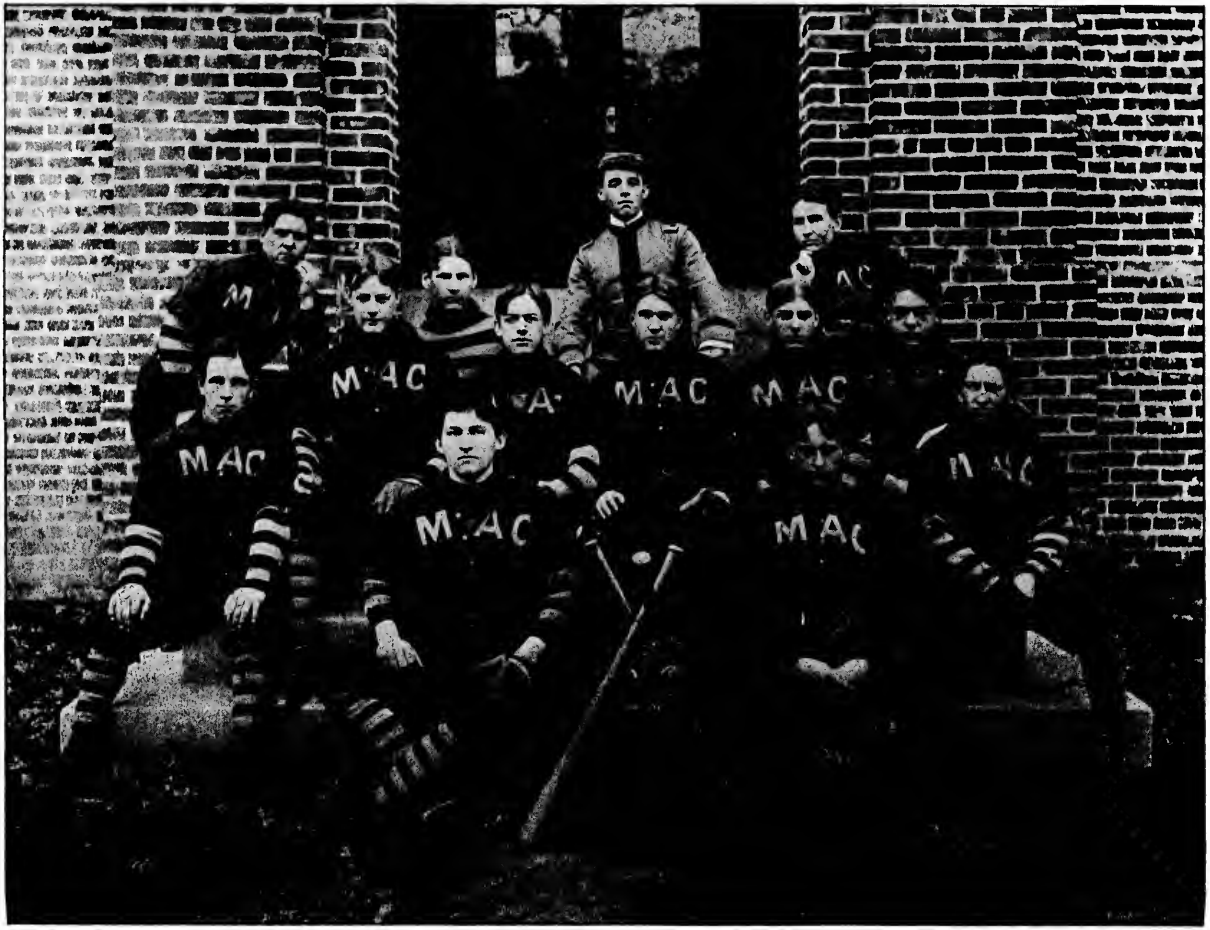

EDITORIAL STAFF

FOOT BALL TEAM.

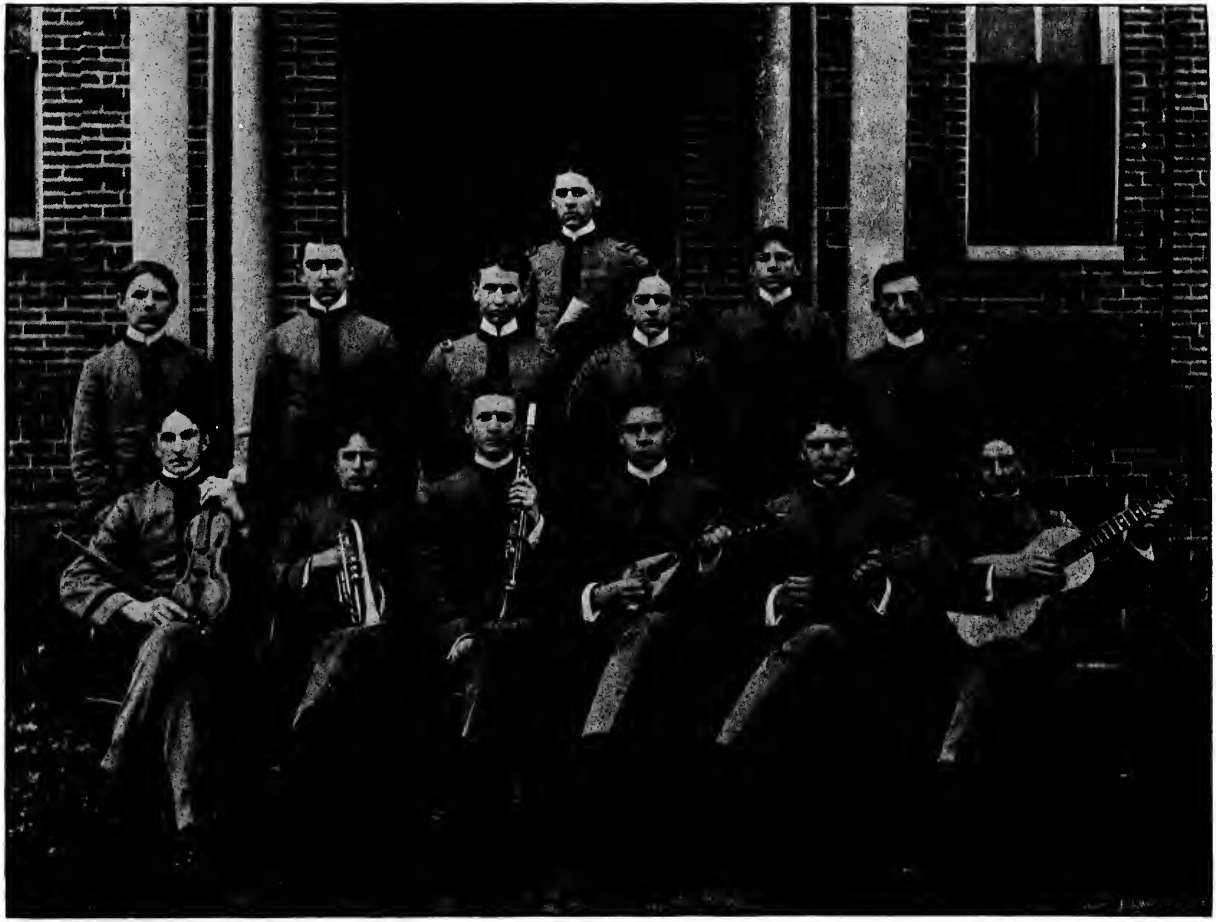

EDITORIAL STAFF



FOOT BALL TEAM.



BASE BALL TEAM.



THE GLEE CLUB.

BASE BALL TEAM.

THE GLEE CLUB.

TRACK TEAM.

TO OUR PATRONS.

READ CAREFULLY THIS CIRCULAR.

IT is advisable to call your particular attention to certain features of the College seeking your patronage.

1. The Agricultural College is a technical Institution of learning. It equips its graduates for a specific line of work. Our graduates, if earnest men, secure employment on graduation.

2. Members of this year's class secured positions in the line of special work upon completing their course.

3. The facilities for practical laboratory work, an essential so necessary in every department of Natural Science, are of a character to afford ample opportunity for the student to fully equip himself for his life's work.

4. Parents and guardians are urged to yield a hearty cooperation to the management in the enforcement of the Rules and Regulations. *Interruption in a course of study must eventuate in superficial information—a worthless article in this day. To avoid this, permission to leave the College should be left in the hands of those in charge of the Institution, and who know what privileges can be safely accorded.*

5. *Our terms are very moderate. The charges are the only source from which the Domestic Department can be supported; hence, terms must be complied with.*

6. Read the catalogue carefully—you owe this to your child as well as the institution. It contains our purpose. It is your contract with the College. Business principles require this.

7. Read the reports carefully—these represent a history of the young man's progress. Timely advice will aid him to do his duty and thus avoid the serious consequences following neglect.

8. We can only be responsible for progress when the student is required by the parent or guardian to comply with rules and regulations as established by the Board of Control of the College. In fact, we prefer that those not doing so, should seek other places of training for those committed to their keeping.

9. We can have but one aim, namely: To so direct the course of the student as to make his life a success.

R. W. SILVESTER,

PRESIDENT M. A. C.

TRACK TEAM.

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